IN THE UNITED STATES DISTRICT COURT
FOR THE EASTERN DISTRICT OF TEXAS
MARSHALL DIVISION

ARTHREX, INC., *Plaintiff/Counter-Defendant* v. SMITH & NEPHEW, INC, and ARTHROCARE CORP., *Defendants/Counter-Plaintiffs*	Case No. 2:15-cv-1047-RSP
ARTHREX, INC., *Plaintiff/Counter-Defendant* v. SMITH & NEPHEW, INC, and ARTHROCARE CORP., *Defendants/Counter-Plaintiffs*	Case No. 2:15-cv-1756-RSP

CLAIM CONSTRUCTION MEMORANDUM AND ORDER

On June 3, 2016, the Court held a hearing to determine the proper construction of the disputed claim terms in six groups of patents. The first group includes United States Patent Nos. 8,343,186 ("the '186 Patent"), 8,623,052 ("the '052 Patent"), 8,801,755 ("the '755 Patent"), and 8,821,541 ("the '541 Patent") (collectively, "the Suture Anchor Patents"). The second group includes United States Patent Nos. 6,214,031 ("the '031 Patent"), 6,511,499 ("the '499 Patent"), and 7,195,634 ("the '634 Patent) (collectively, "the Corkscrew Patents"). The third group includes United States Patent Nos. 7,329,272 ("the '272 Patent") and 9,179,907 ("the '907 Patent") (collectively, "the Knotless Suture Anchor Patents"). The fourth group includes United States Patent Nos. 6,629,977 ("the '977 Patent"), 6,875,216 ("the '216 Patent"), and 7,322,986 ("the '986 Patent") (collectively, "the Interference Screw Patents"). The fifth group includes

United States Patent No. 5,993,451 (hereinafter "the '451 Patent" or "the Drill Guide Patent"). The sixth and final group includes Defendant ArthroCare's United States Patent No. 7,090,690 ("the '690 Patent" or "Defendants/Counter-Plaintiffs ArthroCare's Patent"). Having considered the arguments made by the parties at the hearing and in the parties' claim construction briefing (Dkt. Nos. 105, 118, 120, 122, 124, and 125), having considered the intrinsic evidence, and having made subsidiary factual findings about the extrinsic evidence, the Court hereby issues this Claim Construction Memorandum and Order. *See Phillips v. AWH Corp.*, 415 F.3d 1303, 1314 (Fed. Cir. 2005); *Teva Pharm. USA, Inc. v. Sandoz, Inc.*, 135 S. Ct. 831, 841 (2015).

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I. BACKGROUND

A. The Suture Anchor Patents

The ’186 Patent is titled “Fully Threaded Suture Anchor with Transverse Anchor Pin.” The ’186 Patent relates to a suture anchor that includes “a pin that is disposed transversely within the suture anchor, over which one or more strands of suture is looped.” ’186 Patent at Abstract. The ’186 Patent was filed on April 4, 2005, issued on January 1, 2013, and claims priority based on a provisional application filed on April 6, 2004. The ’052 Patent and the ’755 Patent are titled “Suture Anchor,” and also relate to a suture anchor assembly that includes a tissue securing suture looped over a rigid support. The ’052 Patent was filed on July 2, 2013, and issued on January 7, 2014. The ’755 Patent was filed on January 6, 2014, and issued on August 12, 2014.

The ’755 Patent is a continuation of the ’052 Patent, which in turn is a continuation of the ’186 Patent. The parties agree, at least for purposes of the present claim construction proceedings, that “all three [patents] share a largely identical specification.” (Dkt. No. 122 at 21). [1] The Abstract of the ’186 Patent is representative and states:

> A suture anchor has a pin that is disposed transversely within the suture anchor, over which one or more strands of suture is looped. The anchor body is threaded and has a tapered distal portion. The proximal end portion of the suture anchor body has a hexagonally shaped opening to accept a hexagonal drive head. The peripheral surface defining hexagonally shaped opening is rounded and smooth to prevent abrading sutures placed in contact therewith.

Claim 1 of the ’118 Patent is an exemplary claim and recites the following elements (disputed term in italics):

> 1. A suture anchor assembly for attachment of tissue to bone, the suture anchor assembly comprising:

[1] Unless otherwise indicated, all citations to documents filed with the Court are to the ECF page number assigned by the Court’s filing system.

an anchor body including a distal end, a proximal end, a longitudinal axis, an outer surface and a *central bore*, the *central bore* being located at the proximal end and extending partially through the anchor body;

a *rigid member* having a longitudinal axis and disposed in the *central bore*, wherein the longitudinal axis of the *rigid member* extends across the longitudinal axis of the anchor body;

at least one tissue securing suture looped around the *rigid member* including a first end and a second end, wherein the first end and the second end of the at least one tissue securing suture extend out of the anchor body and extend out of an opening at the proximal end of the anchor body; and

a driver having a *cannula*, wherein the driver is received in a portion of the *central bore*, wherein the *cannula* has a distal opening and a proximal opening, wherein the first end and the second end of the at east one tissue securing suture extend out of the proximal opening of the *cannula*.

The ’541 Patent is titled “Suture Anchor with Insert-molded Rigid Member,” and relates to “a threaded suture anchor with an eyelet shield transversely molded at a distal end of the anchor body, over which one or more strands of suture is looped..” ’541 Patent at Abstract. The ’541 Patent was filed on September 12, 2006, and issued on September 2, 2014. The ’541 Patent is a continuation-in-part of the ’186 Patent. The ’541 Patent includes an embodiment having “an eyelet shield 9 molded transversely into a distal part 11 of the threaded body 3 of the suture anchor 1,” “rather than having an anchor pin.” ***Id.*** at 5:23–26, Figures 5-8. The Abstract of the ’541 Patent states the following:

> A threaded suture anchor with an eyelet shield transversely molded at a distal end of the anchor body, over which one or more strands of suture is looped. The anchor body is threaded and has a tapered distal portion. The proximal end portion of the suture anchor body has a polygonally shaped opening to accept a polygonal drive head, preferably hexagonal or square. The peripheral surface defining polygonally shaped opening is rounded and smooth to prevent abrading sutures placed in contact therewith. In another embodiment, a push-in anchor is provided with an eyelet shield at the proximal end of the anchor.

Claim 1 of the ’541 Patent is an exemplary claim and recites the following elements (disputed term in italics):

1. A suture anchor comprising:

an anchor body having a longitudinal axis, a proximal end, a distal end, a *central passage*, a first suture opening, and a second suture opening, wherein the *central passage* extends along the longitudinal axis, the *central passage* extends from the first suture opening which is located at the proximal end of the anchor body and through a portion of a length of the anchor body, the first suture opening is encircled by a perimeter of the anchor body, and the second suture opening extends through a portion of the anchor body;

a *rigid support* fixed to the anchor body, wherein the *rigid support* extends across the *central passage* and has a first portion and a second portion spaced from the first portion, the first portion branching from a first wall portion of the anchor body and the second portion branching from a second wall portion of the anchor body, the *rigid support* spaced axially away from the first suture opening along the longitudinal axis of the anchor body, and the second suture opening is disposed near the *rigid support*; and

at least one suture strand threaded into the *central passage*, wherein the at least one suture strand is supported by the *rigid support* and threaded through the first suture opening and the second suture opening of the anchor body.

B. The Corkscrew Patents

The ’031 Patent is titled “Corkscrew Suture Anchor,” and relates to a suture anchor that includes “a continuous thread spiralling around a tapering central core.” ’031 Patent at Abstract. The ’031 Patent was filed on June 5, 2000, issued on April 10, 2001, and claims priority based on a provisional application filed on August 5, 1996. The ’499 Patent and the ’634 Patent are also titled “Corkscrew Suture Anchor.” The ’499 Patent was filed on April 3, 2001, and issued on January 28, 2003. The ’634 Patent was filed on July 11, 2005, and issued on March 27, 2007.

The ’634 Patent is a continuation of the ’499 Patent, which in turn is a continuation of the ’031 Patent. Except where indicated below, the Corkscrew Patents generally share the same specification. The Abstract of the ’031 Patent is representative and states:

> A corkscrew suture anchor has a continuous thread spiralling around a tapering central core. At the distal end, the suture anchor terminates in a rounded point. At the proximal end of the suture anchor is an eye for

> receiving suture. The suture anchor has a large thread surface per turn of thread. Anti-backout ridges can be formed on the front and/or back faces of the threads. A driver for the suture anchor is provided, the driver including a shaft having a central axis, a length, a distal end, and a proximal end. The shaft is provided at its distal end with an opening aligned with the central axis of the shaft, for receiving the hexagonal proximal end of the suture anchor. One or more sutures threaded through the suture eye are threaded through the hollow tubular shaft. The suture is pulled into and captured by V-shaped notches on the proximal end of the handle to hold the suture anchor in place on the distal end of the driver under the tension of the captured sutures.

Claim 1 of the ’031 Patent is an exemplary claim and recites the following elements (disputed term in italics):

> 1. A suture anchor for securing suture to soft bone, comprising:
> a *central body* having a central axis, a distal end and a proximal end, the *central body* having a diameter, the *central body* being tapered from a maximum diameter near the proximal end to a minimum diameter toward the distal end, and a *tip portion disposed at the distal end of the central body* having a taper which is greater than the taper of the *central body*;
> a *drive head* disposed on the proximal end of the *central body*;
> an eyelet for receiving at least one strand of suture; and
> a continuous thread disposed in a spiral around the *central body* and having an inner diameter, an outer diameter, and a thickness, the thickness of the thread at the outer edge of the thread increasing proximally along a portion of the thread, *the outer diameter of the thread being at least twice the inner diameter of the thread along a portion of the thread.*

C. The Knotless Suture Anchor Patents

The ’272 Patent is titled “Graft Fixation Using a Plug Against Suture,” and relates to a “method for securing soft tissue to bone which does not require the surgeon to tie suture knots to secure the tissue to the bone” ’272 Patent at Abstract. The ’272 Patent is a continuation-in-part of United States Patent No. 6,544,281 (not asserted in this case), which claims priority based on a provisional application filed on June 22, 2000. The ’272 Patent was filed on April 3, 2003, and issued on February 12, 2008. The ’907 Patent is titled “Knotless Graft Fixation Assembly,” and also relates to a suture securing assembly

that does not require the surgeon to tie suture knots to secure the tissue to the bone. '907 Patent at 8:1–3. The '907 Patent was filed on May 8, 2014, and issued on November 10, 2015. The '907 Patent is a continuation of United States Patent Application No. 13/765,218 filed on February 12, 2013, which is a divisional of United States Patent No. 8,430,909 (not asserted in this case) filed on July 14, 2011, which is a continuation of United States Patent No. 7,993,369 (not asserted in this case) filed on January 30, 2008, which is a continuation-in-part of the '272 Patent.

As discussed further below, the specifications of the Knotless Suture Anchor Patents have parts of their respective specifications that overlap, and parts of their respective specifications that do not. The Abstract of the '272 Patent is representative and states:

> A method for securing soft tissue to bone which does not require the surgeon to tie suture knots to secure the tissue to the bone. A pilot hole or socket is created in the bone at the location that the graft is to be secured. Suture is passed through the graft at desired points. A cannulated plug or screw is pre-loaded onto the distal end of a driver provided with an eyelet implant at its distal end. Suture attached to the graft is passed through the eyelet of the implant located at the distal end of the driver. The distal end of the driver together with the eyelet implant is inserted into the bottom of the hole, with the screw or plug disposed just outside the hole. Tension is applied to the suture to position the graft at the desired location relative to the bone hole. The screw or plug is then fully advanced into the pilot hole by turning the interference screw or tapping the plug until the cannulated screw or plug securely engages and locks in the eyelet implant, so that the cannulated plug or screw with the engaged eyelet implant is flush with the bone. Once the screw or plug is fully inserted and the suture is impacted into the pilot hole, the driver is removed and any loose ends of the sutures protruding from the anchor site are then clipped short.

Claim 1 of the '272 Patent is an exemplary claim and recites the following elements (disputed term in italics):

> 1. *A system for interference fixation of a suture in a hole in bone*, the system comprising:
> a *driver* including a shaft having a proximal end and a distal end;

a cannulated *interference device preloaded on the driver and disposed coaxially with the shaft*, the cannulated *interference device* having an inner diameter and an outer diameter; and

an implant containing an aperture, the aperture being located at *most distal end of the* implant and being configured to capture suture, said implant being releasably attached at the distal end of the *driver* and having *a width smaller than the inner diameter of the cannulated interference device*.

D. The Interference Screw Patents

The ’977 Patent is titled “Tapered Bioabsorbable Interference Screw and Method for Endosteal Fixation of Ligaments.” The ’977 Patent relates to a bioabsorbable interference screw that has a tapered profile that “makes the screw easy to insert while providing superior fixation resulting from a progressively increasing diameter.” ’977 Patent at Abstract. The ’977 Patent was filed on November 15, 2000, issued on October 7, 2003, and claims priority based on a provisional application filed on November 15, 1999. The ’216 Patent and the ’986 Patent are also titled “[Tapered] Bioabsorbable Interference Screw for Endosteal Fixation of Ligaments.” The ’216 Patent was filed on August 6, 2003, and issued on April 5, 2005. The ’986 Patent was filed on April 4, 2005, and issued on January 29, 2008.

The ’986 Patent is a continuation of the ’216 Patent, which in turn is a divisional of the ’977 Patent. The Interference Screw Patents share an essentially identical specification. The Abstract of the ’977 Patent is representative and states:

> A bioabsorbable interference screw having a tapered profile which extends along substantially the entire length of the screw. The tapered profile makes the screw easy to insert while providing superior fixation resulting from a progressively increasing diameter. Upon insertion, the screw engages cortical bone at the back end of the bone tunnel and fills all but 5-10 mm. of the tunnel, thereby providing increased fixation strength while also promoting fast healing. The screw includes a head provided with a specially designed drive socket with radially extending slots at its outer end for receiving corresponding protrusions on the shaft of screwdriver. The drive socket optimizes the torque capacity of the screw. To maintain wall

thickness, the socket has a taper corresponding to the tapered outer profile of the screw. The taper of the socket also permits easy insertion of the tip and shaft of the driver into the screw.

Claim 1 of the ’977 Patent is an exemplary claim and recites the following elements (disputed term in italics):

> 1. A method of interference fixation for ACL reconstruction using a bioabsorbable interference screw having an *elongated threaded body*, said *elongated threaded body* having a proximal end, a distal end, a length and *taper*, the threads and *taper* of the screw *extending along substantially the entire length of the screw from said proximal end to said distal end*, said method comprising the steps of:
> forming a tunnel in the tibia, said tunnel having a wall;
> inserting a substitute ligament in the tunnel; and
> inserting said bioabsorbable interference screw into the tunnel such that said *elongated threaded body* fills all but 5-10 mm of the tunnel, the threads at the proximal end of the screw engage cortical bone in the tunnel, and said substitute ligament is securely fixed between the threads of the screw and the wall of the tunnel.

E. The Drill Guide Patent

The ’451 Patent is titled “Cannulated Suture Anchor Drill Guide.” The ’451 Patent relates to an arthroscopic method and apparatus for implanting a suture anchor into tissue using a cannulated drill guide having an indented tip. ’451 Patent at Abstract. The ’451 Patent was filed on January 14, 1999, issued on November 30, 1999, and claims priority based on a provisional application filed on July 25, 1996.

The Abstract of the ’451 Patent is representative and states:

> An arthroscopic method and apparatus for implanting a suture anchor into tissue using a cannulated drill guide having an indented tip. Ligament tissue at a shoulder repair site is penetrated with a cannulated drill guide and removable trochar obturator. The obturator is removed, and the indented tip is positioned to straddle the glenoid rim at the repair site. Suture material is appended to a suture anchor. The pre-threaded suture anchor is attached to a device driver and installed through the cannulated drill guide into the repair site, where it is drilled into bone.

Claim 1 of the ’451 Patent is an exemplary claim and recites the following elements

(disputed term in italics):

> 1. A surgical instrument for installing a suture anchor into bone by turning the suture anchor using a driver, the instrument comprising:
> a cannulated drill guide having a proximal end and a distal end;
> a cylindrical handle having a central cannula disposed on the proximal end of the drill guide, the cannulae of the drill guide and the handle having a common central axis;
> a *V-shaped indentation at the distal end of the drill guide for straddling a bone formation at a repair site*; and
> at least one *window near the distal end of the drill guide and proximal to the V-shaped indentation* for viewing the suture anchor and driver as they pass through the cannulated drill guide.

F. Defendants/Counter-Plaintiffs ArthroCare's Patent

The '690 Patent is titled "Devices and Methods for Repairing Soft Tissue." The '690 Patent relates to devices and methods for securing soft tissue to bone. '690 Patent at Abstract. The '690 Patent was filed on November 19, 2002, and issued on August 15, 2006. The Abstract of the '690 Patent states:

> Devices and methods are disclosed for securing soft tissue to bone, and particularly for axially anchoring suture which attaches the soft tissue to adjacent bone structure.

Claim 1 of the '690 Patent is an exemplary claim and recites the following elements (disputed term in italics):

> 1. A suture anchoring device, comprising:
> an anchor body having an outer wall;
> a *suture return member* disposed at a distal end of said anchor body, for receiving a length of suture extending distally through said body, and returning a portion of said suture length in a proximal direction; and
> a passage extending along an interior surface of said wall for accommodating said length of suture, *said passage tapering in width in a proximal to distal direction*.

II. APPLICABLE LAW

A. Claim Construction

"It is a 'bedrock principle' of patent law that 'the claims of a patent define the invention to which the patentee is entitled the right to exclude.'" *Phillips v. AWH Corp.*, 415 F.3d 1303, 1312 (Fed. Cir. 2005) (en banc) (quoting *Innova/Pure Water Inc. v. Safari Water Filtration Sys., Inc.*, 381 F.3d 1111, 1115 (Fed. Cir. 2004)). To determine the meaning of the claims, courts start by considering the intrinsic evidence. *Id.* at 1313; *C.R. Bard, Inc. v. U.S. Surgical Corp.*, 388 F.3d 858, 861 (Fed. Cir. 2004); *Bell Atl. Network Servs., Inc. v. Covad Commc'ns Group, Inc.*, 262 F.3d 1258, 1267 (Fed. Cir. 2001). The intrinsic evidence includes the claims themselves, the specification, and the prosecution history. *Phillips*, 415 F.3d at 1314; *C.R. Bard, Inc.*, 388 F.3d at 861. The general rule—subject to certain specific exceptions discussed *infra*—is that each claim term is construed according to its ordinary and accustomed meaning as understood by one of ordinary skill in the art at the time of the invention in the context of the patent. *Phillips*, 415 F.3d at 1312–13; *Alloc, Inc. v. Int'l Trade Comm'n*, 342 F.3d 1361, 1368 (Fed. Cir. 2003); *Azure Networks, LLC v. CSR PLC*, 771 F.3d 1336, 1347 (Fed. Cir. 2014) ("There is a heavy presumption that claim terms carry their accustomed meaning in the relevant community at the relevant time.") (vacated on other grounds).

"The claim construction inquiry . . . begins and ends in all cases with the actual words of the claim." *Renishaw PLC v. Marposs Societa' per Azioni*, 158 F.3d 1243, 1248 (Fed. Cir. 1998). "[I]n all aspects of claim construction, 'the name of the game is the claim.'" *Apple Inc. v. Motorola, Inc.*, 757 F.3d 1286, 1298 (Fed. Cir. 2014) (quoting *In re Hiniker Co.*, 150 F.3d 1362, 1369 (Fed. Cir. 1998)). First, a term's context in the asserted claim can be instructive. *Phillips*, 415 F.3d at 1314. Other asserted or unasserted claims can also aid in determining the claim's meaning, because claim terms are typically used consistently throughout the patent. *Id.*

Differences among the claim terms can also assist in understanding a term's meaning. *Id*. For example, when a dependent claim adds a limitation to an independent claim, it is presumed that the independent claim does not include the limitation. *Id*. at 1314–15.

"[C]laims 'must be read in view of the specification, of which they are a part.'" *Id*. (quoting *Markman v. Westview Instruments, Inc.*, 52 F.3d 967, 979 (Fed. Cir. 1995) (en banc)). "[T]he specification 'is always highly relevant to the claim construction analysis. Usually, it is dispositive; it is the single best guide to the meaning of a disputed term.'" *Id*. (quoting *Vitronics Corp. v. Conceptronic, Inc.*, 90 F.3d 1576, 1582 (Fed. Cir. 1996)); *Teleflex, Inc. v. Ficosa N. Am. Corp.*, 299 F.3d 1313, 1325 (Fed. Cir. 2002). But, "'[a]lthough the specification may aid the court in interpreting the meaning of disputed claim language, particular embodiments and examples appearing in the specification will not generally be read into the claims.'" *Comark Commc'ns, Inc. v. Harris Corp.*, 156 F.3d 1182, 1187 (Fed. Cir. 1998) (quoting *Constant v. Advanced Micro-Devices, Inc.*, 848 F.2d 1560, 1571 (Fed. Cir. 1988)); *see also Phillips*, 415 F.3d at 1323. "[I]t is improper to read limitations from a preferred embodiment described in the specification—even if it is the only embodiment—into the claims absent a clear indication in the intrinsic record that the patentee intended the claims to be so limited." *Liebel-Flarsheim Co. v. Medrad, Inc.*, 358 F.3d 898, 913 (Fed. Cir. 2004).

The prosecution history is another tool to supply the proper context for claim construction because, like the specification, the prosecution history provides evidence of how the U.S. Patent and Trademark Office ("PTO") and the inventor understood the patent. *Phillips*, 415 F.3d at 1317. However, "because the prosecution history represents an ongoing negotiation between the PTO and the applicant, rather than the final product of that negotiation, it often lacks the clarity of the specification and thus is less useful for claim construction purposes." *Id.* at

1318; *see also Athletic Alternatives, Inc. v. Prince Mfg.*, 73 F.3d 1573, 1580 (Fed. Cir. 1996) (ambiguous prosecution history may be "unhelpful as an interpretive resource").

Although extrinsic evidence can also be useful, it is "'less significant than the intrinsic record in determining the legally operative meaning of claim language.'" *Phillips*, 415 F.3d at 1317 (quoting *C.R. Bard, Inc.*, 388 F.3d at 862). Technical dictionaries and treatises may help a court understand the underlying technology and the manner in which one skilled in the art might use claim terms, but technical dictionaries and treatises may provide definitions that are too broad or may not be indicative of how the term is used in the patent. *Id*. at 1318. Similarly, expert testimony may aid a court in understanding the underlying technology and determining the particular meaning of a term in the pertinent field, but an expert's conclusory, unsupported assertions as to a term's definition are entirely unhelpful to a court. *Id*. Generally, extrinsic evidence is "less reliable than the patent and its prosecution history in determining how to read claim terms." *Id*. The Supreme Court recently explained the role of extrinsic evidence in claim construction:

> In some cases, however, the district court will need to look beyond the patent's intrinsic evidence and to consult extrinsic evidence in order to understand, for example, the background science or the meaning of a term in the relevant art during the relevant time period. *See, e.g., Seymour v. Osborne*, 11 Wall. 516, 546 (1871) (a patent may be "so interspersed with technical terms and terms of art that the testimony of scientific witnesses is indispensable to a correct understanding of its meaning"). In cases where those subsidiary facts are in dispute, courts will need to make subsidiary factual findings about that extrinsic evidence. These are the "evidentiary underpinnings" of claim construction that we discussed in *Markman*, and this subsidiary factfinding must be reviewed for clear error on appeal.

Teva Pharm. USA, Inc. v. Sandoz, Inc., 135 S. Ct. 831, 841 (2015).

B. Departing from the Ordinary Meaning of a Claim Term

There are "only two exceptions to [the] general rule" that claim terms are construed according to their plain and ordinary meaning: "1) when a patentee sets out a definition and acts

as his own lexicographer, or 2) when the patentee disavows the full scope of the claim term either in the specification or during prosecution."[2] *Golden Bridge Tech., Inc. v. Apple Inc.*, 758 F.3d 1362, 1365 (Fed. Cir. 2014) (quoting *Thorner v. Sony Computer Entm't Am. LLC*, 669 F.3d 1362, 1365 (Fed. Cir. 2012)); *see also GE Lighting Solutions, LLC v. AgiLight, Inc.*, 750 F.3d 1304, 1309 (Fed. Cir. 2014) ("[T]he specification and prosecution history only compel departure from the plain meaning in two instances: lexicography and disavowal."). The standards for finding lexicography or disavowal are "exacting." *GE Lighting Solutions*, 750 F.3d at 1309.

To act as his own lexicographer, the patentee must "clearly set forth a definition of the disputed claim term," and "clearly express an intent to define the term." *Id.* (quoting *Thorner*, 669 F.3d at 1365); *see also Renishaw*, 158 F.3d at 1249. The patentee's lexicography must appear "with reasonable clarity, deliberateness, and precision." *Renishaw*, 158 F.3d at 1249.

To disavow or disclaim the full scope of a claim term, the patentee's statements in the specification or prosecution history must amount to a "clear and unmistakable" surrender. *Cordis Corp. v. Boston Sci. Corp.*, 561 F.3d 1319, 1329 (Fed. Cir. 2009); *see also Thorner*, 669 F.3d at 1366 ("The patentee may demonstrate intent to deviate from the ordinary and accustomed meaning of a claim term by including in the specification expressions of manifest exclusion or restriction, representing a clear disavowal of claim scope.") "Where an applicant's statements are amenable to multiple reasonable interpretations, they cannot be deemed clear and unmistakable." *3M Innovative Props. Co. v. Tredegar Corp.*, 725 F.3d 1315, 1326 (Fed. Cir. 2013); *see also Avid Tech., Inc. v. Harmonic, Inc.*, 812 F.3d 1040, 1045 (Fed. Cir. 2016) ("When the prosecution

[2] Some cases have characterized other principles of claim construction as "exceptions" to the general rule, such as the statutory requirement that a means-plus-function term is construed to cover the corresponding structure disclosed in the specification. *See, e.g., CCS Fitness, Inc. v. Brunswick Corp.*, 288 F.3d 1359, 1367 (Fed. Cir. 2002).

history is used solely to support a conclusion of patentee disclaimer, the standard for justifying the conclusion is a high one.").

Although a statement of lexicography or disavowal must be exacting and clear, it need not be "explicit." *See Trs. of Columbia Univ. v. Symantec Corp.*, 811 F.3d 1359, 1364 (Fed. Cir. 2016) ("a patent applicant need not expressly state 'my invention does not include X' to indicate his exclusion of X from the scope of his patent"). Lexicography or disavowal can be implied where, *e.g.*, the patentee makes clear statements characterizing the scope and purpose of the invention. *See On Demand Mach. Corp. v. Ingram Indus., Inc.*, 442 F.3d 1331, 1340 (Fed. Cir. 2006) ("[W]hen the scope of the invention is clearly stated in the specification, and is described as the advantage and distinction of the invention, it is not necessary to disavow explicitly a different scope."). Nonetheless, the plain meaning governs "[a]bsent implied or explicit lexicography or disavowal." *Trs. of Columbia Univ.*, 811 F.3d at 1364 n.2.

C. Definiteness Under 35 U.S.C. § 112, ¶ 2 (pre-AIA) / § 112(b) (AIA) [3]

Patent claims must particularly point out and distinctly claim the subject matter regarded as the invention. 35 U.S.C. § 112, ¶ 2. A claim, when viewed in light of the intrinsic evidence, must "inform those skilled in the art about the scope of the invention with reasonable certainty." *Nautilus Inc. v. Biosig Instruments, Inc.*, 134 S. Ct. 2120, 2129 (2014). If it does not, the claim fails § 112, ¶ 2 and is therefore invalid as indefinite. *Id.* at 2124. Whether a claim is indefinite is determined from the perspective of one of ordinary skill in the art as of the time the application for the patent was filed. *Id.* at 2130. As it is a challenge to the validity of a patent, the failure of any claim in suit to comply with § 112 must be shown by clear and convincing evidence. *Id.* at

[3] Because the Asserted Patents have an effective filing date before September 16, 2012, the effective date of the America Invents Act ("AIA"), the Court refers to the pre-AIA version of § 112.

2130 n.10. "[I]ndefiniteness is a question of law and in effect part of claim construction." *ePlus, Inc. v. Lawson Software, Inc.*, 700 F.3d 509, 517 (Fed. Cir. 2012).

When a term of degree is used in a claim, "the court must determine whether the patent provides some standard for measuring that degree." *Biosig Instruments, Inc. v. Nautilus, Inc.*, 783 F.3d 1374, 1378 (Fed. Cir. 2015) (quotation marks omitted). Likewise, when a subjective term is used in a claim, "the court must determine whether the patent's specification supplies some standard for measuring the scope of the [term]." *Datamize, LLC v. Plumtree Software, Inc.*, 417 F.3d 1342, 1351 (Fed. Cir. 2005); *accord Interval Licensing LLC v. AOL, Inc.*, 766 F.3d 1364, 1371 (Fed. Cir. 2014) (citing *Datamize*, 417 F.3d at 1351).

III. CONSTRUCTION OF AGREED TERMS

The parties agreed to the construction of the following terms:

Claim Term/Phrase	**Agreed Construction**
Agreed Term #1 Preamble is limiting. '986 Patent – 1 '977 Patent – 1, 6	The preamble is limiting.
Agreed Term #2 "by turning" '451 Patent – 1, 7	Not a limitation.
Agreed Term #3 "a cylindrical handle" '451 Patent: 1, 6, 7	"a handle that is shaped similar to a cylinder"
Agreed Term #4 "suture securing portion" '907 Patent – 27	"suture securing position"
Agreed Term #5 "central passage" '541 Patent – 1, 5, 6, 10	"a central path, channel, or duct of the anchor body"
Agreed Term #6 "suture passage"	"a path, channel, or duct for suture of the anchor body"

’541 Patent – 4, 9, 11	
Agreed Term #7 “longitudinal axis” ’186 Patent – 1, 9, 12, 14, 15 ’052 Patent – 1, 6, 10, 12, 15 ’755 Patent – 1, 3, 4, 6, 7, 10, 11, 14, 21	“an axis that extends along a length”
Agreed Term #8 “easily insertable” ’216 Patent – 1	Plain and ordinary meaning. The phrase “easily insertable” is intended use and not limiting.
Agreed Term #9 “inserter” ’907 Patent – 1, 2, 7, 10	“device for inserting”

(Dkt. No. 126 at 126–27) (Join Claim Construction Chart). In view of the parties’ agreement on the proper construction of the identified terms, the Court hereby **ADOPTS** the parties’ agreed constructions.

IV. CONSTRUCTION OF DISPUTED TERMS

A. The Suture Anchor Patents

The parties’ dispute focuses on the meaning and scope of eleven terms/phrases in the Suture Anchor Patents.

1. “internal passage,” “passage,” “internal central cavity,” “cavity,” “central bore”

Disputed Term	Plaintiff’s Proposal	Defendants’ Proposal
Term #39 “internal passage”	Plain and ordinary meaning. Alternatively, an internal path, channel, or duct of the anchor body/anchor.	“a path, channel, or duct fully surrounded by the anchor body”
Term #38 “passage”	Plain and ordinary meaning. Alternatively, a path, channel, or duct of the anchor body.	“a path, channel, or duct fully surrounded by the anchor body”

Term #37 "internal central cavity"[4]	Plain and ordinary meaning. Alternatively, an internal central hollow of the anchor body.	"a fully surrounded hole in the center of the anchor body"
Term #36 "cavity"	Plain and ordinary meaning. Alternatively, a hollow of the anchor.	"a fully surrounded hole in the anchor body"
Term #35 "central bore"	Plain and ordinary meaning. Alternatively, a central hollow of the anchor body.	"a fully surrounded hole in the center of the anchor body"

a) The Parties' Positions

For these terms, the central dispute is whether the passage/cavity/bore of the recited anchor body must be "fully surrounded," as Defendants propose. Regarding the terms "internal passage" and "passage," the parties agree that a "passage" is a "path, channel or duct." The parties dispute whether a "passage" must be fully surrounded by the anchor body. Plaintiff contends that the "passage" terms should be treated consistently across the claims. (Dkt. No. 118 at 8). Plaintiff argues that Defendants agree that the terms "central passage" and "suture passage" recited in the claims of the '541 Patent are not limited to being "fully surrounded." (*Id.*). According to Plaintiff, this means that the "passage" terms in the '755 Patent should also not be limited to "fully surrounded," because the '755 and '541 Patents both claim priority to the '186 Patent. (*Id.*).

Plaintiff also argues that Defendants' construction also conflicts with the claims of the '755 Patent, which Plaintiff contends contemplate a passage that includes openings and is not fully surrounded. (*Id.*) (citing '755 Patent at 8:7–8). Plaintiff further argues that dependent claim 18 of '755 Patent recites "the internal passage is surrounded by at least some of the longitudinally extending wall," and dependent claim 19 of the '755 Patent recites "a continuous

[4] The parties agree that "there is little (if any) difference between a 'hollow' (Arthrex's proposal) and a 'hole' (S&N's proposal)." (Dkt. No. 122 at 28).

wall along only some of the internal passage." (Dkt. No. 118 at 8). According to Plaintiff, the "internal passage" of independent claim 14 must be at least broad enough to cover a passage that is not "fully surrounded." (*Id.* at 8–9). Plaintiff further argues that claim 7 should also be construed consistently with claim 14 since the disputed term is used consistently throughout the patent. (*Id.* at 9).

Plaintiff also argues that Defendants' construction also conflicts with the plain and ordinary meaning of "passage." (*Id.*) (citing Dkt. No. 111-11). According to Plaintiff, even the accepted definitions do not require the passage to be "fully surrounded." (Dkt. No. 118 at 9). Plaintiff further argues that Defendants describe its accused Healicoil anchor as having a "channel" in its sales literature, even though this product's "channel" is not fully enclosed. (*Id.*) (citing Dkt. No. 108-2).

Defendants respond that construing "passage" to include a path that is not fully surrounded by the anchor body would "expand the scope of the claims far beyond anything described in the specification." (Dkt. No. 122 at 32) (citing *Kinetic Concepts, Inc. v. Blue Sky Med. Grp., Inc.*, 554 F.3d 1010, 1019 (Fed. Cir. 2009)). Regarding Plaintiff's argument that Defendants agreed to a broad construction of "passage" in the '541 Patent, Defendants argue that the '541 Patent contains new matter not found in the '755 Patent. (Dkt. No. 122 at 33). According to Defendants, the new matter supports a broader construction of "passage" for the '541 Patent. (*Id.*). Defendants further argue that the dependent claims identified by Plaintiff most logically read on apertures in the side of the anchor body, into which an anchor pin is inserted and secured. (*Id.*) (citing '755 Patent at 4:43–46). Defendants contend that although these apertures temporarily create holes in the side of the anchor that are later sealed by the anchor pin. (Dkt. No. 122 at 33).

Finally, Defendants argue that the brochure Plaintiff cites suggests that in a vacuum a "channel" need not be "fully surrounded." (*Id.*). Defendants contend that the brochure is extrinsic evidence and is entitled to little weight. (*Id.*). Defendants further argue that the use of the term "passage" in ArthroCare's '690 Patent is not relevant. (*Id.*). According to Defendants, the controlling question is not how other patentees use "passage," but how a person of ordinary skill would have understood it in the particular context of the '755 Patent. (*Id.*).

Regarding the terms "internal central cavity" and "cavity," Plaintiff argues that during prosecution, the Examiner rejected original claims 1, 2, 7, 11, and 20 of the '755 Patent, which required "passage" or "internal passage," over claims 1, 4, and 20 of the '052 Patent, which required "internal central cavity," on grounds of obviousness type double patenting. (Dkt. No. 118 at 10) (citing Dkt. No. 111-4). Specifically, the examiner concluded both claimed "common subject matter." (*Id.*). Plaintiff further argues that the patentee filed a terminal disclaimer to overcome the rejection. (Dkt. No. 118 at 10) (citing Dkt. No. 111-5). According to Plaintiff, this indicates that the term "internal central cavity" of the '052 Patent should be construed consistently with the terms "passage" and "internal passage" of the '755 Patent. (Dkt. No. 118 at 10).

Plaintiff further argues that dependent claim 7 of the '052 Patent recites "wherein the wall portion surrounds the internal central cavity." (*Id.*). According to Plaintiff, this means that the recited "internal central cavity" in claim 1 must be broader than Defendants contend. Plaintiff also argues that dependent claim 16 of the '052 Patent recites "wherein the wall portion surrounds the cavity." Again, based on claim differentiation, Plaintiff contends that the term "cavity" recited in claim 14 of the '052 Patent covers a cavity that is not "fully surrounded." (*Id.* at 11). Plaintiff also argues that its construction is consistent with one well accepted definition of

"cavity," which is "a hollow space within the body, an organ, a bone, etc." (*Id.*) (citing Dkt. No. 108-6).

Defendants respond that other than in the Abstract, the '052 Patent does not use the term "cavity." (Dkt. No. 122 at 31). Defendants argue that the only support for a "cavity" in the '052 Patent is the description and depiction of bore 132 and 136, which is also found in the '186 Patent that supports the "central bore" term. (*Id.*). According to Defendants, this indicates that the same arguments for its construction of "central bore," also apply to the "cavity" terms. (*Id.*).

Regarding Plaintiff's terminal disclaimer argument, Defendants contend that the examiner's conclusion that "passage" and "cavity" claim "common subject matter" must mean that the terms are limited to the meaning of "bore." (*Id.*). Regarding Plaintiff's claim differentiation arguments, Defendants contend that Plaintiff does not fully quote the dependent claims. (*Id.* at 32). Defendants argue that each claim recites "the wall portion surrounds the [internal central cavity or cavity] and the at least one tissue securing suture." (*Id.*). According to Defendants, the independent claim could include an anchor wall that surrounds the cavity, but which does not surround the tissue securing suture. (*Id.*). Defendants contend that this is an ambiguous claim differentiation argument that cannot overcome the intrinsic evidence that supports construing "cavity" to be a fully surrounded hole. (*Id.*).

Regarding the term "central bore," Plaintiff argues that because the '541 Patent is a continuation-in-part of the '186 Patent, the term "central bore" of the '186 Patent should be construed consistently with the '541 Patent's "central passage." (Dkt. No. 118 at 12). Plaintiff also argues that Defendants' construction conflicts with claim 1 of the '186 Patent, which contemplates an opening to the central bore. (*Id.*). Plaintiff contends that the term "central bore" is not limited to being "fully surrounded" in the context of the claims. (*Id.*). Plaintiff also argues

that its construction is consistent with two definitions of "bore" that include "a hollow" and "a hole or passage," neither of which includes Defendants' "fully surrounded" language. (*Id.*). (citing Dkt. Nos. 108-6, 108-7). According to Plaintiff, the need for Defendants to propose "fully surrounded" in combination with "hole" in their construction demonstrates that not all holes must be so limited. (*Id.* at 12).

Defendants respond that the specification explains that "suture attached to the anchor through the transverse pin exits the suture anchor through a central bore in the anchor, which prevents suture abrasion by the wall of the bone tunnel into which the anchor is inserted." (Dkt. No. 122 at 29) (citing '186 Patent at 2:26–29). Defendants contend that the patent explains that this is advantageous because it prevents the suture from "cutting by sharp or rough areas along the walls of the bone canal into which the anchor is inserted." (Dkt. No. 122 at 29) (citing '186 Patent at 1:44–46). Defendants further contend that the patent identifies two "bores" (a "hexagonally shaped bore 132" and a "cylindrical bore 136") that extends from the distal end of bore 132. (Dkt. No. 122 at 29) (citing '186 Patent at 3:20–24, 3:41–44, Fig. 2). Defendants argue that during prosecution of the '186 Patent, the patentees identified bores 132 and 136, together, as the "central bore." (Dkt. No. 122 at 29). According to Defendants, the "central bore" 132, 136 is uniformly described and depicted as a hole in the anchor body that a wall of the anchor body surrounds. (*Id.* at 29) (citing '186 Patent at Figs. 1–2, 4–6, 2:36–37).

Defendants further argue that the patent's description is consistent with dictionaries that define "bore" as a "hole" made by boring, *i.e.*, by drilling into a solid object. (Dkt. No. 122 at 29) (citing Dkt. Nos. 122-12, 122-13, 122-21). According to Defendants, forming a hole by drilling (boring) into a solid object necessarily results in a hole that is surrounded by the material that comprises that object. (Dkt. No. 122 at 29) (citing '186 Patent at 1:24–28). Defendants argue

that the patentees emphasized repeatedly that protecting the suture from touching the wall of the bone tunnel was a critical aspect of "the present invention." (Dkt. No. 122 at 29) (citing '186 Patent at 1:10–15, 2:11–14, 2:23–25, 4:46–53). Defendants contend that if the bore were not fully surrounded by the anchor body, the sutures would not be protected. (Dkt. No. 122 at 29).

Defendants further contend that Plaintiff's argument regarding construing the terms consistent with the '541 Patent fails to account for new matter disclosed only in the '541 Patent. (*Id.* at 30). Defendants argue that the '541 Patent discloses a suture anchor with a bore 15 that extends "from the proximal end 92 of the suture anchor 1 to a location roughly halfway along the anchor body 1." (*Id.*) (citing '541 Patent at 5:45–47). Defendants further contend that distal to bore 15 are two "suture passages 94" formed by openings in the anchor wall. (Dkt. No. 122 at 30) (citing '541 Patent at 5:37–41, Fig. 7b). According to Defendants, the '541 Patent's distinction between the fully surrounded section 15, which it calls a "bore," and the openings, which are referred to as "passages," reinforces that their construction of "central bore" is correct. (Dkt. No. 122 at 30).

Regarding Plaintiff's argument that Defendants' construction forecloses an opening, Defendants argue that by definition a "hole" must have an opening. (*Id.*). Defendants further argue that a "fully surrounded" hole is one that is surrounded fully on its sides, *i.e.*, circumferentially surrounded. (*Id.*). Regarding Plaintiff's cites to two definitions for "bore," Defendants argue that Plaintiff ignores that both definitions require the hole to be created by boring. (*Id.*). Defendants contend that boring into an object results in a hole that is circumferentially surrounded by the object. (*Id.*).

For all of the terms, Plaintiff replies that the parties agreed that the "central passage" / "suture passage" in claims of the '541 Patent are not limited to fully surrounded. (Dkt. No. 125

at 9). According to Plaintiff, there is no reason to construe these terms differently from their counterparts in related patents. (*Id.*). Plaintiff further argues that the specification contemplates that the passage/cavity/bore elements need not be fully enclosed by stating that "[t]wo longitudinal, diametrically opposite apertures 118 are formed in anchor body 108, the apertures 118 supporting a metal transverse anchor pin 120 which extends across cylindrical bore 136." (*Id.*) (citing '186 Patent at 3:50–53, Fig. 2). Plaintiff contends that contrary to Defendants' argument, there is no indication that the bore 136 only exists when the pin is in place. (Dkt. No. 125 at 9). Plaintiff argues that the specification contemplates that the "bore" still exists even before the apertures 118 receive a "pin." (*Id.*).

Plaintiff further argues that dependent claims 18 and 19 of the '755 Patent recite, respectively, that "the internal passage is surrounded by at least some of the … wall" or "a continuous wall along only some of the internal passage." (*Id.*). According to Plaintiff, the independent claims must be construed broadly enough to cover a passage that is not "fully surrounded." (*Id.*). Plaintiff also argues that Defendants' construction conflicts with the dependent claims that require the passage to be only partially surrounded. (*Id.* at 10).

For the following reasons, the Court finds that the term **"internal passage"** should be construed to mean **"an internal path, channel, or duct of the anchor body/anchor,"** and that the term **"passage"** should be construed to mean **"a path, channel, or duct of the anchor body."** The Court further finds that the term **"internal central cavity"** should be construed to mean **"an internal central hollow of the anchor body,"** and that the term **"cavity"** should be construed to mean **"a hollow of the anchor."** The Court also finds that the term **"central bore"** should be construed to mean **"a central hollow of the anchor body."**

b) Analysis

The term "internal passage" appears in claims 7, 10, 11, 14, 16, 18, 19, 20, 23, 28, and 29 of the '755 Patent. The Court finds that the term is used consistently in the claims and is intended to have the same meaning in each claim. The term "passage" appears in claims 1, 4, 5, and 6 of the '755 Patent. The Court finds that the term is used consistently in the claims and is intended to have the same meaning in each claim. The term "internal central cavity" appears in claims 1, 2, 4, 5, and 7 of the '052 Patent. The Court finds that the term is used consistently in the claims and is intended to have the same meaning in each claim. The term "cavity" appears in claims 10, 12, 14, and 16 of the '052 Patent. The Court finds that the term is used consistently in the claims and is intended to have the same meaning in each claim. The term "central bore" appears in claims 1, 7, 8, 9, 10, 11, and 13 of the '186 Patent. The Court finds that the term is used consistently in the claims and is intended to have the same meaning in each claim.

The Court further finds that the intrinsic evidence does not indicate that the passage/cavity/bore must be "fully surrounded." A number of dependent claims indicate that the recited passage/cavity/bore in the respective independent claim may not be fully surrounded by the anchor body. For example, dependent claim 18 of the '755 Patent recites "the internal passage is surrounded by at least some of the longitudinally extending wall." Similarly, dependent claim 19 of the '755 Patent recites "a continuous wall along only some of the internal passage." Turning to the '052 Patent, dependent claim 7 recites "wherein the wall portion surrounds the internal central cavity." Similarly, dependent claim 16 of the '052 Patent recites "wherein the wall portion surrounds the cavity." Accordingly, these examples indicate that the term "cavity" and "passage" includes a cavity or passage that is not "fully surrounded." *AK Steel Corp. v. Sollac & Ugine*, 344 F.3d 1234, 1242 (Fed. Cir. 2003) ("Under the doctrine of claim

differentiation, dependent claims are presumed to be of narrower scope than the independent claims from which they depend.").

Moreover, the Court finds that the presumption applies in this case and has not been rebutted. Consistent with the claims, the specification states that "[t]wo longitudinal, diametrically opposite apertures 118 are formed in anchor body 108, the apertures 118 supporting a metal transverse anchor pin 120 which extends across cylindrical bore 136." '186 Patent at 3:50–53. This indicates that the passage/cavity/bore is not "fully surrounded" because of the apertures 118 in the anchor body.

Defendants argue that the apertures create temporary holes in the anchor that are sealed once the pin is inserted, thereby resulting in an anchor passage that is fully surrounded. The Court finds that there is no indication that the bore 136 only exists when the pin is in place. A person of ordinary skill would understand that the "bore" exists before the apertures 118 receive a "pin." In short, Defendants' construction would read out a preferred embodiment. *Vitronics Corp. v. Conceptronic, Inc.*, 90 F.3d 1576, 1583 (Fed. Cir.1996) (stating that a construction that excludes a preferred embodiment "is rarely, if ever, correct and would require highly persuasive evidentiary support.").

Likewise, the Court disagrees with Defendants' argument that the passage/cavity/bore can only be formed by drilling into a solid object, and therefore, necessarily results in a hole that is surrounded by the material that comprises that object. (Dkt. No. 122 at 29). As Defendants conceded during the claim construction hearing, the passage/cavity/bore could be molded, and does not need to be drilled into a solid object. More importantly, how the passage/cavity/bore is created does not limit or require the passage/cavity/bore to be "fully surrounded." Indeed, the specification states that "[t]wo longitudinal, diametrically opposite apertures 118 are formed in

anchor body 108, the apertures 118 supporting a metal transverse anchor pin 120 which extends across cylindrical bore 136." '186 Patent at 3:50–53. As indicated by this embodiment, even if the passage/cavity/bore is initially drilled and is "fully surrounded," it is no longer "fully surrounded" once the apertures are formed in the anchor body.

Defendants also argue that the inventors emphasized repeatedly that protecting the suture from touching the wall of the bone tunnel was a critical aspect of "the present invention." (Dkt. No. 122 at 29). According to Defendants, if the bore were not fully surrounded by the anchor body, the sutures would not be protected. The Court agrees that the specification indicates that protecting the suture from touching the wall of the bone tunnel is a critical aspect of the invention. However, the specification does not indicate that the only way that this can be accomplished is by "fully surrounding" the sutures. As discussed above, the specification states that "[t]wo longitudinal, diametrically opposite apertures 118 are formed in anchor body 108." '186 Patent at 3:50–53. Therefore, protecting the suture from touching the wall of the bone tunnel can be accomplished without requiring the passage/cavity/bore to be "fully surrounded."

For example, the '541 Patent discloses two "suture passages 94" formed by openings in the anchor wall. '541 Patent at 5:37–41, Figure 7b. Similar to the '186, '052, and '755 Patents; the '541 Patent indicates that protecting the suture from touching the wall of the bone tunnel was a critical aspect of the invention. *Id.* at 2:2–6, 5:13–17. More importantly, the '541 Patent does not indicate that these additional passages fail to protect the suture from touching the wall of the bone tunnel and/or require the passage/cavity/bore to be "fully surrounded."

Defendants also contend that Plaintiff fails to account for new matter disclosed only in the '541 Patent. According to Defendants, the term "passage" only appears in the '541 Patent, and is described as two "suture passages 94" formed by openings in the anchor wall. '541 at

5:37–41. Defendants argue that this makes the term "passage" in the '541 Patent broader than "central bore" in the pin patents. The Court finds that the terms "passage" and "cavity" do not appear in the specifications of the '186, '052, and '755 Patents. However, there is no indication that this requires the passage/cavity/bore term to be more narrowly construed. Moreover, this does not indicate that passage/cavity/bore must be "fully surrounded."

To be sure, the recited "central bore" in claim 11 of the '186 Patent, corresponding to issued claim 1, was originally claimed as a "suture passage," and then amended to "central bore defining a suture passage," before it was eventually amended to the recited "central bore." (Dkt. No. 109-14 at 17, 109-8 at 4, 109-10 at 11). These amendments indicate that the patentees used the terms "passage" and "bore" interchangeably. Accordingly, the Court agrees with Plaintiff that the terminal disclaimer filed during the prosecution of the '755 Patent indicates that the patentees intended the terms to have similar scope. However, the Court disagrees that the terms should be limited as Defendants propose. The Court also disagrees that the noted differences between the independent and dependent claims are ambiguous.

Finally, the Court agrees with Defendants that the terms do not necessarily have to be construed the same as the parties' agreed construction for "central passage." However, the intrinsic evidence does not indicate that the passage/cavity/bore must be "fully surrounded." The Court also understands Defendants' positon that "fully surrounded" does not mean that the passage cannot have an opening. However, as discussed above, the intrinsic evidence does not indicate that the passage/cavity/bore must be "fully surrounded" or "fully circumferentially surrounded." Finally, in reaching its conclusion, the Court has considered the extrinsic evidence submitted by the parties and given it its proper weight in light of the intrinsic evidence.

c) Court's Construction

The Court construes the term **"internal passage"** to mean **"an internal path, channel, or duct of the anchor body/anchor,"** and the term **"passage"** to mean **"a path, channel, or duct of the anchor body."** The Court further construes the term **"internal central cavity"** to mean **"an internal central hollow of the anchor body,"** and the term **"cavity"** to mean **"a hollow of the anchor."** The Court also construes the term **"central bore"** to mean **"a central hollow of the anchor body."**

2. "rigid support," "rigid suture support structure," "cavity rigid member"

Disputed Term	Plaintiff's Proposal	Defendants' Proposal
Term #41 "rigid support" '052 Patent - 10, 17 '755 Patent - 1, 2, 3, 4, 5, 7	Plain and ordinary meaning. Alternatively, a not flexible, or stiff part that bears the load of the tissue securing suture/suture strand.	"an inflexible part of the suture anchor assembly that supports a tissue securing suture and is distinct from the anchor body"
Term #41 "rigid support" '541 Patent - 1, 2, 5, 6, 8, 10, 11	Plain and ordinary meaning. Alternatively, a not flexible, or stiff part that bears the load of the tissue securing suture/suture strand.	"an inflexible part of the suture anchor assembly that supports a tissue securing suture"
Term #42 "rigid suture support structure"	Plain and ordinary meaning. Alternatively, a not flexible, or stiff part that bears the load of the tissue securing suture.	"an inflexible part of the suture anchor assembly that supports a tissue securing suture and is distinct from the anchor"
Term #40 "cavity rigid member"	Plain and ordinary meaning. Alternatively, a not flexible, or stiff part that bears the load of the tissue securing suture.	"an inflexible part of the suture anchor assembly that supports a tissue securing suture and is distinct from the anchor body"

a) The Parties' Positions

The parties dispute whether the rigid support of the claimed suture anchor assembly must be "distinct from the anchor body," as Defendants propose, or whether it can be integral with the

anchor body (*e.g.*, integrally molded as a single piece), as Plaintiff contends. The parties also dispute whether the term "rigid support" should be construed differently across the asserted patents. Regarding the term "rigid support," Plaintiff argues that neither party's construction for the term "rigid support" in the '541 Patent requires the support to be "distinct" from the anchor body. (Dkt. No. 118 at 13). Plaintiff further argues that none of the claims including the disputed term recite a "distinct" rigid support. (*Id.*). Plaintiff contends that the claims recite "a rigid support fixed by the anchor body against relative movement," which Plaintiff argues is consistent with its construction. (*Id.*).

Plaintiff further argues that during prosecution of the '186 Patent, the examiner rejected original claim 11 of the '186 Patent reciting a "member" over Figure 4 of Morgan. (*Id.* at 14) (citing Dkt. No. 109-15). Plaintiff contends that Morgan discloses that "retainer 40 is unitary with the body 12." (*Id.*). Plaintiff argues that the patentees did not dispute the examiner's interpretation of the "member" in view of retainer 40 in Morgan being unitary with the body. (Dkt. No. 118 at 14) (citing Dkt. No. 109-16). Plaintiff also argues that there is no compelling reason to limit the claims to the preferred embodiment of the '186 Patent, as Defendants' construction requires. (Dkt. No. 118 at 14). Plaintiff contends that Defendants' construction is inconsistent with the plain and ordinary meaning of "support." (*Id.*) (citing Dkt. No. 108-6).

Regarding the term "rigid suture support structure," Plaintiff argues that "rigid suture support structure" includes the terms "rigid" and "support," and should be construed consistently with "rigid support." (Dkt. No. 118 at 15). Plaintiff further argues that none of the claims recite a "distinct" rigid suture support structure. (*Id.*). Plaintiff contends that Defendants' construction also directly conflicts with the plain and ordinary meaning of "structure." (*Id.*) (citing Dkt. No. 108-6).

Regarding the term "rigid member," Plaintiff argues that this term should be treated consistently because the '541 and '052 Patents claim priority to the '186 Patent, and "rigid support" and "rigid member" are both supported by the original disclosure. (Dkt. No. 118 at 16). Plaintiff contends that no claims recite a "distinct" rigid member. (*Id.*). Plaintiff further argues that Defendants' construction runs contrary to the plain and ordinary meaning of "member." (*Id.*) (citing Dkt. No. 108-6).

Defendants respond by arguing that the "rigid support" should be construed differently in the '541 Patent, than in the '052 Patent and '755 Patent. For the terms in the '186, '052, and '755 Patents, Defendants argue that the independent claims recite a suture anchor assembly comprising four separate elements: (1) an anchor body (or anchor), (2) a rigid member, (3) at least one tissue securing suture, and (4) a driver. (Dkt. No. 122 at 21). According to Defendants, the structure of the claims requires the "anchor body" and the "rigid member" to be distinct structural elements. (*Id.*).

Defendants further argue that the claim's relationship language between the rigid member and the anchor body (or anchor) reinforces that the two are distinct structural elements. (*Id.* at 22). Defendants contend that six of the seven independent pin claims require that the rigid member be "fixed" to the anchor body (or anchor). (*Id.*). Defendants also argue that claim 1 of the '755 Patent recites that the "rigid support is attached to the first interior surface and to the second interior surface" of the passage within the anchor body. (*Id.*).

Defendants further argue that claim 1 of the '186 Patent requires that the "rigid member" be "disposed in the central bore" of the anchor body and have an axis that crosses the axis of the anchor body. (*Id.*). According to Defendants, an object cannot be disposed in, or extend across itself. (*Id.*). Defendants also argue that the requirement that each component has its own

longitudinal axis reinforces that they are distinct from one another. (*Id.* at 23). Defendants contend that the other independent pin claims contain similar language that would also be nonsensical if the rigid member were integral with the anchor body. (*Id.*).

Defendants further argue that various dependent claims introduce additional limitations that would be nonsensical if the "rigid member" terms were construed to include a component integral with the anchor body. (*Id.*) (citing '755 Patent at claims 24, 25). According to Defendants, a rigid member that is part of the anchor body cannot be "received" by the anchor body. (Dkt. No. 122 at 23).

Defendants also argue that the only embodiment described in the specification includes a pin distinct from the anchor body. (*Id.*) (citing '186 Patent at 2:11–14, 1:10–13). Defendants further argue that all of the patent's drawing depict a suture anchor with an anchor pin distinct from the anchor body, and are described as depicting "the suture anchor of the present invention." (Dkt. No. 122 at 24) (citing '186 at 2:36–37). Defendants contend that the Abstract touts the suture anchor's use of an anchor pin, and that the title of the '186 Patent is "Fully Threaded Suture Anchor With Transverse Anchor Pin." (Dkt. No. 122 at 24). Defendants argue that the consistent disclosure throughout the specification, and the description of "the present invention" confirm the correctness of its construction. (*Id.*) (citing '186 Patent at 3:50–53, 4:11–15).

Defendants further argue that the specification, claims, and prosecution history of the '541 Patent further reinforce that the "rigid member" terms in the pin patents should be construed to be distinct from the anchor body. (Dkt. No. 122 at 25). Defendants contend that the '541 Patent includes new matter that describes new suture anchor embodiments that were not previously disclosed. (*Id.*) ('541 Patent at 5:18–6:50, Figures 5–12). Defendants argue that one

new embodiment describes a suture anchor in which, "[r]ather than having an anchor pin as discussed in the embodiment [of the pin patents]," there is "an eyelet shield 9 molded transversely into a distal part 11 of the threaded body 3 of the suture anchor 1." (Dkt. No. 122 at 25) (citing '541 Patent at 5:23–26, 5:52–56, Figures 5–8). According to Defendants, the patentees unambiguously characterized the suture anchor of the pin patents as using an "anchor pin," and made clear that the rigid support "molded into" (*i.e.*, made integral with) the anchor body in the '541 Patent is different from (and better than) the "anchor pin" of the pin patents. (Dkt. No. 122 at 25) (citing '541 Patent at 5:23–25, 5:52–56).

Defendants further argue that in the provisional application that introduced the new matter describing the "integral" rigid support of the '541 patent, the patentees stated that the molded eyelet shield was new in the '541 Patent and not disclosed in the pin patents. (Dkt. No. 122 at 26) (citing Dkt. No. 122-15). Defendants also argue that the examiner found that the '541 Patent was not entitled to benefit from the filing dates of "the parent applications," which included the pin patent applications. (Dkt. No. 122 at 26) (citing Dkt. No. 111-6). Defendants argue that the examiner stated that the parent applications "do not teach a rigid member that is molded with the anchor body and is integral with the anchor body to define a single-piece component." (*Id.*). Defendants contend that if the prior patents had claimed an integral member, there would have been no need for the '541 Patent. (Dkt. No. 122 at 26). Defendants also argue that the extrinsic evidence confirms that a rigid member is distinct from the anchor body. (*Id.* at 27) (citing Dkt. Nos. 122-17, 122-32, 122-19, 108-6).

Regarding Plaintiff's argument, Defendants contend that the '541 Patent is a continuation-in-part of the prior patents, and added new matter of an integral rigid member. (Dkt. No. 122 at 27, 35). According to Defendants, this indicates that the term "rigid support"

used in the ’541 Patent claims is necessarily broader than the “rigid member” terms in the pin patents. (*Id.*). Defendants also argue that contrary to Plaintiff’s position, the “fixed” language reinforces that the two components fixed together are distinct and separate from one another. (*Id.* at 27).

Defendants further argue that Plaintiff misreads the file history when it argued that the examiner found the “member” element of pending claim 11 to be disclosed in “Figure 4 of Morgan.” (*Id.* at 28). According to Defendant, the examiner found the “member” element of claim 11 disclosed in Figure 8 of Morgan. (*Id.*). Defendants contend that Figure 8 illustrates a separate pin that is inserted into apertures in the side of the anchor body. (*Id.*). Finally, Defendants argue that the consistent disclosure across the entire specification limits the claims to the disclosed embodiment. (*Id.*).

Plaintiff replies that there is no basis to define this term differently across related patents. (Dkt. No. 125 at 10). Plaintiff argues that the examiner rejected original claim 11 of the ’186 Patent in view of both Figure 8 and Figure 4 of Morgan. (*Id.*) (citing Dkt. No. 109-15). Plaintiff contends that the identification of “member” by the examiner as both a unitary retainer and a separate retainer supports its broader construction. (Dkt. No. 125 at 10). Plaintiff further contends that its constructions are also consistent with the plain and ordinary meaning of the relevant terms, none of which requires that the “support” or “member” be distinct from the anchor body. (*Id.*). Plaintiff also argues that Defendants improperly seek to limit the claims to the preferred embodiment of the patent. (*Id.* at 11). Plaintiff contends that if the patentee wanted to limit the term “rigid member” and “rigid support” to a “pin,” it could have done so. (*Id.*).

Plaintiff further argues that there are instances where Defendants refer to “separate” and “distinct” as different terms. (*Id.*). Plaintiff contends that if these terms meant the same thing,

using them together would create an unnecessary redundancy. (*Id.*). Plaintiff also argues that there is no evidence that the terms "fixed at," "fixed by," "in a fixed longitudinal position," "attached to," and "disposed in" reinforces that the two are separate structural elements. (*Id.*). Plaintiff contends that claim 14 of the '755 Patent recites "a rigid suture support in a fixed longitudinal position relative to the anchor." (*Id.*). Plaintiff contends that the use of the term "fixed" in the context of this claim has no bearing on whether the "rigid suture support" is separate from or integral with the anchor because it merely refers to the orientation of the "rigid suture support." (*Id.*).

Finally, Plaintiff argues that the '186, '052, and '755 Patents describe a species (*i.e.*, a transverse pin) and claim one of the broader rigid member/support elements. (*Id.* at 12). Plaintiff further argues that the '541 Patent introduced another species of the genus claimed in the '186, '052, and '755 Patents. (*Id.*). According to Plaintiff, even if the species disclosed in the '541 Patent constitutes new matter, it is still covered by the genus claimed in the '186, '052, and '755 Patents. (*Id.*).

For the following reasons, the Court finds that the term **"rigid support,"** as recited in the '052 Patent and '755 Patent, should be construed to mean **"an inflexible part of the suture anchor assembly that supports a tissue securing suture and is not molded with the anchor body to define a single-piece component."** The Court further finds that the term **"rigid support,"** as recited in the '541 Patent, should be construed to mean **"an inflexible part of the suture anchor assembly that supports a tissue securing suture."** The Court further finds that the term **"rigid suture support structure"** should be construed to mean **"an inflexible part of the suture anchor assembly that supports a tissue securing suture and is not molded with the anchor body to define a single-piece component."** The Court also finds that the term

"rigid member" should be construed to mean **"an inflexible part of the suture anchor assembly that supports a tissue securing suture and is not molded with the anchor body to define a single-piece component."**

b) Analysis

The term "rigid support" appears in claims 10 and 17 of the '052 Patent, claims 1, 2, 3, 4, 5, and 7 of the '755 Patent, and claims 1, 2, 5, 6, 8, 10, and 11 of the '541 Patent. For the reasons discussed below, the Court finds that the term should not be construed the same across the Suture Anchor Patents. However, the Court finds that the term is used consistently within each patent, and is intended to have the same meaning within each patent. The term "rigid suture support structure" appears in claims 14, 15, 18, 20, 21, 24, 26–28, and 30 of the '755 Patent. The Court finds that the term is used consistently in the claims and is intended to have the same meaning in each claim. The term "rigid member" appears in claims 1, 3, 7, 8, 10, 11, 14, 15, 19, and 20 of the '186 Patent, and claims 1, 4, and 8 of the '052 Patent. The Court finds that the term is used consistently in the claims and is intended to have the same meaning in each claim.

Turning first to the term "rigid support," the Court finds that the term should not be construed the same across the Suture Anchor Patents. Specifically, the intrinsic record indicates that the term is used differently in the '541 Patent than in the '052 and '755 Patents. During prosecution of the '541 Patent, claim 1 originally recited "a rigid support integral with the anchor body to define a single-piece component." *See, e.g.*, Dkt. No. 111-6 at 108. The examiner found that the '541 Patent was not entitled to benefit from the filing dates of "the parent applications," which included the '186, '052, and '755 Patent applications, because they "do not teach a rigid member *that is molded with the anchor body* and is integral with the anchor body *to define a single-piece component*." (Dkt. No. 111-6 at 150) (emphasis added).

The examiner's statement is consistent with the provisional application for the '541 Patent, which stated that "[t]he sutures are threaded around an eyelet shield that is *molded into the distal part of the anchor*. In this respect, *the present invention differs* from the suture anchor with transverse anchor pin described in pending U.S. application serial No. 11/097,172 [*i.e.*, the application that led to the '186 Patent]." (Dkt. No. 122-15 at 5). This indicates that the "rigid support" in the '541 Patent may be molded as part of the anchor body forming a single-piece component. This also indicates that a person of ordinary skill in the art would understand that the "rigid support" in the '052 and '755 Patent is not molded with the anchor body.

Plaintiff argues that the patentees in the '541 Patent introduced another species of the genus claimed in the '186, '052, and '755 Patents. (Dkt. No. 125 at 12). According to Plaintiff, the "molded" species is still covered by the genus claimed in the '186, '052, and '755 Patents. The Court disagrees. The intrinsic evidence is clear that both the patentees and the examiner understood that the "genus" claimed in the in the '186, '052, and '755 Patents did not include a molded rigid support. As indicated above, the examiner understood that the '186, '052, and '755 applications "do not teach a rigid member that is molded with the anchor body and is integral with the anchor body to define a single-piece component." (Dkt. No. 111-6 at 150).

Moreover, the patentees distinguished the '541 provisional application based on this distinction. The Court finds this to be persuasive evidence of "how a person of ordinary skill in the art would understand a claim term 'in the context of the entire patent, including the specification.'" *Trs. of Columbia Univ. v. Symantec Corp.*, 811 F.3d 1359, 1362 (Fed. Cir. 2016) (quoting *Phillips v. AWH Corp.*, 415 F.3d 1303 (Fed. Cir. 2005) (en banc)); *Microsoft Corp. v. Multi-Tech Sys., Inc.*, 357 F.3d 1340, 1350 (Fed. Cir. 2004) ("Any statement of the patentee in the prosecution of a related application as to the scope of the invention [is] relevant to claim

construction, and the relevance of the statement made in this instance is enhanced by the fact that it was made in an official proceeding in which the patentee had every incentive to exercise care in characterizing the scope of its invention."). Accordingly, the Court finds that it would be improper to construe the terms in the '186, '052, and '755 Patents based on the new matter in the continuation-in-part application. *Goldenberg v. Cytogen, Inc.*, 373 F.3d 1158, 1167 (Fed. Cir. 2004) (finding that district court erred in construing claim term in parent patent based on new matter in CIP); *iLife Techs., Inc. v. Body Media, Inc.*, 90 F. Supp. 3d 415, 427 (W.D. Pa. 2015) ("Disclosures constituting new matter should not be used to construe claim terms appearing in the parent patent, even if the claim terms are common.").

Regarding the terms as they are recited in the '186, '052, and '755 Patents, the Court finds that the intrinsic evidence indicates that the recited "support" or "member" are not molded with the anchor body to form a single-piece component. As discussed above, the examiner found that the '186, '052, and '755 applications "do not teach a rigid member that is molded with the anchor body and is integral with the anchor body to define a single-piece component." (Dkt. No. 111-6 at 150). Moreover, various dependent claims introduce additional limitations that could be confusing if the "rigid member" terms were construed to include a component integral with the anchor body. For example, claims 24 and 25 of the '755 Patent refer to the rigid member being "received" by the anchor. The Court agrees with Defendants that a rigid member that is part of the anchor body cannot be "received" by the anchor body.

In a footnote, Plaintiff argues that claim 1 of the '186 Patent was amended from "member" to "transverse pin." (Dkt. No. 118 at 16 n.6) (citing Dkt. No. 109-8). Plaintiff also argues that through several amendments, this term in claim 1 was amended again to recite "rigid member" before being incorporated into the allowed claim. (118 at 16 n.6) (citing Dkt. Nos. 109-

9, 109-10, 109-11, 109-12). Plaintiff contends that these amendments demonstrate that "rigid member" had a broader definition than the term "pin" used to describe the preferred embodiment. The Court agrees that the recited "rigid member" is not limited to a "pin." However, the intrinsic evidence indicates that the "rigid member" is not molded with the anchor body to define a single-piece component.

In another footnote, Plaintiff argues that pending claim 1 of the '541 Patent was amended from "a rigid member molded with the anchor body, wherein the rigid member is integral with the anchor body" to recite "a rigid support." (Dkt. No. 118 at 16 n.7) (citing Dkt. No. 111-8). Plaintiff argues that dependent claim 55 was amended to incorporate the features of claim 1 and issued as claim 10. (Dkt. No. 118 at 16 n.7) (citing Dkt. No. 111-9). Plaintiff contends that these amendments further demonstrate that the term "rigid member" is not limited to being "integral" or "distinct" relative to the anchor body. The Court disagrees and finds that the weight of the intrinsic evidence indicates otherwise.

Regarding the prosecution history for the '186 Patent, Plaintiff argues that the examiner found the "member" element of pending claim 11 to be disclosed in "Figure 4 of Morgan." The Court notes that the retainer in Figure 4 is described as "unitary" with the body. (Dkt. No. 112-4). Defendants respond that the examiner actually found the "member" element of claim 11 disclosed in Figure 8 of Morgan. The Court notes that the member in Figure 8 appears to be a separate pin that is inserted into apertures in the side of the anchor body. (Dkt. No. 112-4). Upon a careful review of the intrinsic evidence, the Court finds that it is unclear which figure the examiner based the rejection on. Regardless, the balance of the intrinsic evidence indicates that the "rigid support" is not molded with the anchor body to form a single-piece component. Finally, in reaching its conclusion, the Court has considered the extrinsic evidence submitted by

the parties and given it its proper weight in light of the intrinsic evidence.

c) Court's Construction

The Court construes the term **"rigid support,"** as recited in the '052 Patent and '755 Patent, to mean **"an inflexible part of the suture anchor assembly that supports a tissue securing suture and is not molded with the anchor body to define a single-piece component."** The Court further construes the term **"rigid support,"** as recited in the '541 Patent, to mean **"an inflexible part of the suture anchor assembly that supports a tissue securing suture."** The Court construes the term **"rigid suture support structure"** to mean **"an inflexible part of the suture anchor assembly that supports a tissue securing suture and is not molded with the anchor body to define a single-piece component."** The Court also construes the term **"rigid member"** to mean **"an inflexible part of the suture anchor assembly that supports a tissue securing suture and is not molded with the anchor body to define a single-piece component."**

3. "cannula"

Disputed Term	Plaintiff's Proposal	Defendants' Proposal
Term #43 "cannula"	Plain and ordinary meaning. Alternatively, "a shaft with a passage"	"tube"

a) The Parties' Positions

The parties dispute whether a cannula must be a "tube," as Defendants propose, or a shaft having a passage, as Plaintiff proposes. Plaintiff argues that dependent claim 11 of the '052 Patent recites "wherein the cannula at least partially encloses the at least one tissue securing suture." (Dkt. No. 118 at 17). Plaintiff further argues that the term "cannula" in claim 10 necessarily covers a cannula that is not fully enclosed (*i.e.*, non-tubular). (*Id.*). Plaintiff also contends that the examiner of the '541 Patent rejected a pending claim that recited a "cannula" in

view of U.S. Publication No. 2004/0106950 ("Grafton"). (*Id.*) (citing Dkt. No. 111-17). According to Plaintiff, the cited passages of Grafton disclose a cannulated driver 200 that "is cannulated on the side…." (Dkt. No. 118 at 17) (citing Dkt. No. 108-5).

Plaintiff also argues that Defendants' construction conflicts with the plain and ordinary meaning of the term "cannula." (Dkt. No. 118 at 17) (citing Dkt. No. 108-8). Plaintiff further contends that Defendants' marketing materials define a "slotted cannula" having an external slot along its shaft. (Dkt. No. 118 at 17) (citing Dkt. No. 108-9).

Defendants respond that a "cannula" is a well-known term in medical devices. (Dkt. No. 122 at 34). Defendants argue that dictionaries uniformly confirm that a "cannula" is a "tube." (*Id.*). According to Defendants, the pin patents use "cannula" consistently with its ordinary meaning. (*Id.*). Defendants further argue that "cannula 204" in Figures 5 and 6 is a tube through which the sutures are threaded. (*Id.*). Defendants contend that Plaintiff's construction covers not only a tube, but also a shaft with an open slot along its length. (*Id.*). Defendants argue that Plaintiff's construction lacks support in the intrinsic evidence and is contrary to the dictionary definitions. (*Id.*).

Defendants also argue that the primary definition of "cannulate[d]" is "made of a tubular shape, tubular." (*Id.*). Defendants contend that Plaintiff's own dictionary defines "cannula" as a "tubular instrument." (*Id.*). Defendants further argue that claim differentiation cannot alter the ordinary meaning of a term that is clear from the intrinsic and extrinsic evidence. (*Id.*). Regarding the '541 Patent file history, Defendants argue that the patentees' silence as to whether Grafton disclosed a "cannula" is neither clear nor unmistakable, and cannot create a prosecution disclaimer. (*Id.* at 35). Finally, Defendants contend that the extrinsic evidence cited by Plaintiff strongly suggests that the term "cannula" on its own does not include such a shaft. (*Id.*).

Plaintiff replies that dependent claim 11 specifically recites "wherein the cannula at least partially encloses the at least one tissue securing suture." (Dkt. No. 125 at 12). Plaintiff further argues that the PTO interpreted non-tubular art to be a cannula. (*Id.* at 13). Plaintiff also argues that it does not dispute that a cannula may be tubular, but instead argues that a cannula may also be "a shaft with a passage," which is not tubular. (*Id.*). Plaintiff contends that its proposed construction does not alter the plain and ordinary meaning of "cannula." (*Id.*). Plaintiff argues that the term "cannula" is consistent with an element that is either tubular or a shaft with a passage. (*Id.*).

For the following reasons, the Court finds that the term **"cannula"** should be construed to mean **"tube."**

b) Analysis

The term "cannula" appears in claim 1 of the '186 Patent, claims 1, 10, and 11 of the '052 Patent, and claim 13 of the '755 Patent. The Court finds that the term is used consistently in the claims and is intended to have the same meaning in each claim. The Court further finds that a person of ordinary skill in the art would understand "cannula" to mean a "tube." The patents use "cannula" consistently with its ordinary meaning. For example, the specification states that "[t]he driver has a cannula extending through the entire length thereof, with openings at the proximal and distal ends thereof." '186 Patent at 4:25–27. Similarly, Figures 5 and 6 illustrate "cannula 204" as a tube through which the sutures are threaded. '186 Patent at Figures 5, 6.

The Court further finds that the extrinsic evidence is consistent with the intrinsic evidence, and uniformly defines "cannula" as a "tube." (Dkt. No. 122-11 at 4 ("*a tube*…"); Dkt. No. 122-17 at 5 ("a flexible *tube*…"); Dkt. No. 122-18 at 4 ("a *tube*…"); Dkt. No. 122-12 at 5 ("a metal *tube*…"); Dkt. No. 122-20 at 4 ("a *tube*…"); Dkt. No. 122-13 at 5 ("a small *tube*…");

Dkt. No. 122-21 at 5 ("a small *tube*…")) (emphasis added). Indeed, the dictionary definition presented by Plaintiff defines "cannula" as a "tubular instrument." (Dkt. No. 108-8 at 5). Likewise, the primary definition of "cannulate[d]" in the definition presented by Plaintiff is "made of a tubular shape, tubular." (*Id.*). Finally, the Court finds that in this instance, claim differentiation cannot alter the ordinary meaning of a term that is clear from the intrinsic and extrinsic evidence. In addition, the Court agrees with Defendants that the patentees' silence as to whether Grafton disclosed a "cannula" is not a clear and unmistakable prosecution disclaimer.

c) Court's Construction

The Court construes the term **"cannula"** to mean **"tube."**

B. The Corkscrew Patents

The parties' dispute focuses on the meaning and scope of thirteen terms/phrases in the Corkscrew Patents.

1. "the outer diameter of the thread [is / being] at least twice the inner diameter [of the thread] along a portion of the thread," "the outer diameter of the thread being at least twice the inner diameter of the thread along a portion of the thread," "the outer diameter of the thread [is / being] at least twice the inner diameter of the thread along a portion of the thread," "the ratio of the outer diameter to the inner diameter of the thread is between about 2.25 and about 2.75 along a portion of the thread"

Disputed Term	Plaintiff's Proposal	Defendants' Proposal
Term #28 "the outer diameter of the thread [is / being] at least twice the inner diameter [of the thread] along a portion of the thread"	Plain and ordinary meaning. Alternatively, an outer diameter of the thread along a portion of the thread is at least twice the diameter of the central body along a portion of the thread.	"the 'central body' of the suture anchor has a thread in which the diameter from crest to crest in a half revolution (i.e., the 'outer' or 'major' diameter) is at least twice the diameter of the adjacent root (i.e., the adjacent 'inner' or 'minor' diameter)"

Term #28 "the outer diameter of the thread being at least twice the inner diameter of the thread along a portion of the thread"	Plain and ordinary meaning. Alternatively, an outer diameter of the thread along a portion of the thread is at least twice the diameter of the central body along a portion of the thread.	"the 'central body' of the suture anchor has a thread in which the diameter from crest to crest in a half revolution (i.e., the 'outer' or 'major' diameter) is at least twice the diameter of the adjacent root (i.e., the adjacent 'inner' or 'minor' diameter)"
Term #28 "the outer diameter of the thread [is / being] at least twice the inner diameter of the thread along a portion of the thread"	Plain and ordinary meaning. Alternatively, an outer diameter of the thread along a portion of the thread is at least twice the diameter of the central body along a portion of the thread.	"the 'central body' of the suture anchor has a thread in which the diameter from crest to crest in a half revolution (i.e., the 'outer' or 'major' diameter) is at least twice the diameter of the adjacent root (i.e., the adjacent 'inner' or 'minor' diameter)"
Term #29 "the ratio of the outer diameter to the inner diameter of the thread is between about 2.25 and about 2.75 along a portion of the thread"	Plain and ordinary meaning. Alternatively, a ratio of an outer diameter of the thread along a portion of the thread to the diameter of the central body along a portion of the thread is between about 2.25 and about 2.75.	"the 'central body' of the suture anchor has a thread in which the ratio of the diameter from crest to crest in a half revolution (i.e., the 'outer' or "major" diameter) to the diameter of the adjacent root (i.e., the adjacent "inner" or "minor" diameter) is between about 2.25 and about 2.75"

a) The Parties' Positions

The parties dispute which inner and outer diameters should be compared when assessing whether a given suture anchor satisfies the ratio requirement. Plaintiff argues that the claim language itself is adequately clear and requires no construction. (Dkt. No. 118 at 23). Plaintiff contends that the claim merely recites that the comparison of diameters be "along a portion of the thread." (*Id.*). Plaintiff further argues that the specification compares an outer/major diameter to multiple inner/minor diameters along a portion of the thread. (*Id.* at 23–24) (citing '499 Patent at 4:3–6, Table 1). Plaintiff contends that in the instance of the 5.0 mm anchor, the specification identifies a major diameter of 5.0 mm and minor diameters of 1.40 mm and 2.0 mm at different locations along the length of the thread. (Dkt. No. 118 at 24) (citing '499 Patent at 4:6–9, Table 1). Plaintiff argues that these are measured at locations that are not the adjacent root of a half

revolution of the thread, as Defendants propose. (Dkt. No. 118 at 24). Plaintiff also argues that Figure 6 of the Provisional also demonstrates that the inner/minor diameter can be measured at different locations. (*Id.*).

Plaintiff further argues that the term "along a portion of the thread" appears elsewhere in certain of the asserted claims. (*Id.*). Plaintiff contends that claim 1 of the '499 Patent indicates that the phrase "along a portion of the thread" would not be limited as Defendants suggest. (*Id.*). According to Plaintiff, "along a portion of a thread" could be all of the thread or some of the thread. (*Id.* at 25).

Defendants respond that the intrinsic record makes clear that one must compare a given outer diameter to a corresponding adjacent inner diameter. (Dkt. No. 122 at 12) (citing '031 Patent at 4:2–5). Defendants argue that the "suture anchor of the present invention" purportedly improved on prior art anchors because it "provides an increased percentage of thread surface area for each turn of the screw," thus increasing "pull-out strength." (Dkt. No. 122 at 12) (citing '031 Patent at 2:28–38). Defendants also argue that their construction also reflects how a person of ordinary skill in the art would understand the ratio requirements. (Dkt. No. 122 at 12).

Defendants further contend that Plaintiff's construction would allow for comparison between any outer diameter and any inner diameter, even if the outer diameter is measured at one end of the central body and the inner diameter is measured at the other end. (*Id.*). Defendants argue that under Plaintiff's approach, a suture anchor could satisfy the ratio requirements merely because the central body is tapered, even if the thread has virtually no depth at all. (*Id.*). Defendants contend that this would blur the taper and ratio requirements together, even though the specification and claims consistently treat them as separate requirements. (*Id.*).

Defendants also argue that Plaintiff's construction would contradict the inventors'

preference that the diameter ratio be 2.5. (*Id.* at 13) (citing '031 Patent at 2:35–37). Defendants argue that Figure 5 of the provisional application illustrates such an anchor. (Dkt. No. 122 at 13) (Dkt. No. 112-3). Defendants contend that under Plaintiff's approach the anchor in Figure 5 has a ratio of 5 ÷ 1.4 = 3.6, outside the inventors' preferred ratio of "between 2.25 and 2.75." (Dkt. No. 122 at 13). Defendants further contend that Plaintiff's construction would exclude provisional application Figure 5 (with a ratio of 3.6) and Figure 6 (with a ratio of 3.5 ÷ 1.01 = 3.5) from the scope of claim 14 of the '031 Patent, which requires a ratio "between about 2.25 and about 2.75." (*Id.*).

Defendants further contend that nothing in column 4 of Table I suggests that the listed dimensions can or should be used to calculate the claimed ratios. (*Id.*). Defendants argue that the specification is clear that the ratio is calculated based on the inner diameter "where" the outer diameter is taken. (*Id.*) (citing '031 Patent at 4:2–5). Defendants further argue that if column 4 was intended to correspond to the provisional figures, it confirms that the inner diameter relevant to the ratio calculation is the 2 mm inner diameter adjacent the 5 mm outer diameter, and not the 1.40 mm diameter in Table I. (Dkt. No. 122 at 13).

Defendants also argue that there is no inconsistency with their construction and claim 1 of the '499 Patent. (Dkt. No. 122 at 14). Defendants contend that in the context of the proximally increasing thread thickness requirement, "along a portion of the thread" clarifies that the thread thickness must increase at some point. (*Id.*). Defendants argue that in the context of the ratio requirement, "along a portion of the thread" reinforces that the inner diameter is measured "where" the outer diameter is measured. (*Id.*).

Plaintiff replies that Table I of the specification and the corresponding Figure 5 of the Provisional Application show relevant measurements taken at different points along the length of

the anchor. (Dkt. No. 125 at 5). Plaintiff contends that all of the ratios derivable from this table fall within the "at least twice" ratio limitation and support measuring the inner diameter along any portion of the thread. (*Id.*). Plaintiff further argues that with the exception of one dependent claim, the claims are not limited to ratios of 2.25–2.75, but instead recite "at least twice." (*Id.*). Plaintiff also contends that the terms "half revolution" and "adjacent root" are not present in the specification or claims. (*Id.*). Plaintiff further argues that the '031 Patent and the Provisional Application disclose that the inner diameter can be measured at other locations, such as "toward the distal end 16" or toward the proximal end of the body. (*Id.*). Finally, Plaintiff contends that Defendants are attempting to limit the claims to the preferred embodiment. (*Id.* at 6).

For the following reasons, the Court finds that the phrase **"the outer diameter of the thread [is / being] at least twice the inner diameter [of the thread] along a portion of the thread"** should be construed to mean **"the outer diameter of the thread [is / being] at least twice the inner diameter of the thread when the diameters are measured at a single location along a portion of the thread."** The Court further finds that the phrase **"the outer diameter of the thread being at least twice the inner diameter of the thread along a portion of the thread"** should be construed to mean **"the outer diameter of the thread [is / being] at least twice the inner diameter of the thread when the diameters are measured at a single location along a portion of the thread."** The Court further finds that the phrase **"the outer diameter of the thread [is / being] at least twice the inner diameter of the thread along a portion of the thread"** should be construed to mean **"the outer diameter of the thread [is / being] at least twice the inner diameter of the thread when the diameters are measured at a single location along a portion of the thread."** The Court also finds that the phrase **"the ratio of the outer diameter to the inner diameter of the thread is between about 2.25 and about**

2.75 along a portion of the thread" should be construed to mean **"the ratio of the outer diameter to the inner diameter of the thread is between about 2.25 and about 2.75 when the diameters are measured at a single location along a portion of the thread."**

b) Analysis

The phrase "the outer diameter of the thread [is / being] at least twice the inner diameter [of the thread] along a portion of the thread" appears in claims 1, 5, 8, and 12 of the '499 Patent. The Court finds that the phrase is used consistently in the claims and is intended to have the same meaning in each claim. The phrase "the outer diameter of the thread being at least twice the inner diameter of the thread along a portion of the thread" appears in claim 1 of the '031 Patent. The phrase "the outer diameter of the thread [is / being] at least twice the inner diameter of the thread along a portion of the thread" appears in claims 1 and 5 of the '634 Patent. The Court finds that the phrase is used consistently in the claims and is intended to have the same meaning in each claim. The phrase "the ratio of the outer diameter to the inner diameter of the thread is between about 2.25 and about 2.75 along a portion of the thread" appears in claim 14 of the '031 Patent.

The Court notes that the Corkscrew Patents claims recite a "continuous thread disposed in a spiral around a central body." The claims further require a ratio between the outer and inner diameters of the thread "along a portion of the thread." For example, the independent claims require that the "outer diameter" be "at least twice the inner diameter." The parties' dispute arises because the claims also require the recited "central body" to be tapered. This means that the recited "central body" will have a different inner diameter depending on where the measurement is taken. In addition, the outer thread diameter may also vary if the thread itself tapers. Therefore, the dispute is which inner and outer diameters should be compared to

determine the ratio requirement.

The Court finds that a person of ordinary skill in the art would understand that the outer diameter of the thread is at least twice the inner diameter of the thread when the diameters are measured at a single location along a portion of the thread. The specification states that an advantage of the invention is "an increased percentage of thread surface area for each turn of the screw, as compared with known suture anchors, thus providing increased pull-out strength, and a decreased tendency for back-out." '031 Patent at 2:29–33. The specification further states that "[t]he increase in the surface area of the thread is achieved in part by increasing the ratio of the outer diameter of the threads to the inner diameter of the threads." *Id.* at 2:33–35. The specification adds that in the preferred embodiment, "[t]he major, outside diameter of the suture anchor thread of the present invention preferably is about 2.5 times the minor inner diameter of the thread, or the minor diameter of the body toward distal end 16." *Id.* at 3:66–67. Therefore, unlike the "known suture anchors" in the prior art, the invention increased the surface of the thread at specific locations along the thread length.

Indeed, the specification states that "on a 5 mm. diameter suture anchor, for example, where central core 4 is approximately 2 mm. in diameter, the outer diameter of the thread is 5 mm." *Id.* at 4:2–5. Therefore, the Court finds that the claims require the outer diameter of the thread to be at least twice the inner diameter of the thread when the diameters are measured at a single location along a portion of the thread. Plaintiff argues that the specification compares an outer/major diameter to multiple inner/minor diameters along a portion of the thread. (Dkt. No. 118 at 24) (citing '499 Patent at 4:3-6, Table I). Plaintiff further argues that these measurements both identify an outer diameter that is at least twice the inner diameter and coordinate with the design drawing of the 5.0 mm anchor shown as Figure 5 in the provisional application and Table

I. (Dkt. No. 118 at 24).

The Court disagrees that the specification compares the outer/major diameter to multiple inner/minor diameters. As indicated, the specification compares the ratio at a single location along a portion of the thread. The specification does not indicate that the outer/major diameter at one location should be compared to the inner minor diameter at a completely different location. The Court agrees with Defendants that the intrinsic evidence does not indicate that the dimensions listed in Table I should be used to calculate the claimed ratios. Instead, Table I is consistent with Figure 5 of the provisional application and indicates that the proximal end of the anchor has a major diameter of 5.0 and a minor diameter of 2.0, and that the distal end of the anchor has a minor diameter of 1.4. (Dkt. No. 112-3 at 22). As described in the specification, the anchor illustrated in Figure 5 has a ratio of 2.5 at the proximal end. In other words, Plaintiff's construction is overly broad and would improperly encompass "known suture anchors" that do not have the stated advantage of "an increased percentage of thread surface area for each turn of the screw." '031 Patent at 2:29–33.

In addition, Plaintiff's construction would exclude provisional application Figure 5 (with a ratio of 5.0 ÷ 1.4 = 3.6) and Figure 6 (with a ratio of 3.5 ÷ 1.01 = 3.5) from the scope of claim 14 of the '031 Patent, which requires a ratio "between about 2.25 and about 2.75." (Dkt. No. 112-3 at 22–23). The Court notes that Figure 5 and Figure 6 are the only drawings in the Corkscrew Patent family with measurements, and illustrate the preferred embodiments. Accordingly, the Court does not adopt Plaintiff's construction because it would exclude the preferred embodiments. *Vitronics Corp. v. Conceptronic, Inc.,* 90 F.3d 1576, 1583 (Fed. Cir.1996) (stating that a construction that excludes a preferred embodiment "is rarely, if ever, correct and would require highly persuasive evidentiary support.").

Plaintiff argues that the ’031 Patent and the provisional application disclose that the inner diameter can be measured at other locations, such as “toward the distal end 16” or toward the proximal end of the body. (Dkt. No. 125 at 5). The Court agrees that the claims do not specify where the ratio of the diameters must be measured. The scope of the claims may include measurements at either the distal end, the proximal end, or in between. However, contrary to Plaintiff’s contention, the scope of the claims do not include measuring the outer/major diameter at one location and comparing it to the inner/minor diameter at a completely different location. Instead, a person of ordinary skill in the art would understand that the outer diameter of the thread is at least twice the inner diameter of the thread when the diameters are measured at a single location along a portion of the thread. Accordingly, to the extent that Plaintiff contends that the outer/major diameter at one location may be compared to the inner/minor diameter at a completely different location, the Court rejects this argument. Finally, in reaching its conclusion, the Court has considered the extrinsic evidence submitted by the parties, and given it its proper weight in light of the intrinsic evidence.

c) Court’s Construction

The Court construes the phrase **“the outer diameter of the thread [is / being] at least twice the inner diameter [of the thread] along a portion of the thread”** to mean **“the outer diameter of the thread [is / being] at least twice the inner diameter of the thread when the diameters are measured at a single location along a portion of the thread.”** The Court further construes the phrase **“the outer diameter of the thread being at least twice the inner diameter of the thread along a portion of the thread”** to mean **“the outer diameter of the thread [is / being] at least twice the inner diameter of the thread when the diameters are measured at a single location along a portion of the thread.”** The Court further construes the

phrase **"the outer diameter of the thread [is / being] at least twice the inner diameter of the thread along a portion of the thread"** to mean **"the outer diameter of the thread [is / being] at least twice the inner diameter of the thread when the diameters are measured at a single location along a portion of the thread."** The Court also construes the phrase **"the ratio of the outer diameter to the inner diameter of the thread is between about 2.25 and about 2.75 along a portion of the thread"** to mean **"the ratio of the outer diameter to the inner diameter of the thread is between about 2.25 and about 2.75 when the diameters are measured at a single location along a portion of the thread."**

2. "tip formed on the distal end of the central body," "tip portion formed on the distal end of the central body," "tip portion disposed at the distal end of the central body," "central body"

Disputed Term	Plaintiff's Proposal	Defendants' Proposal
Term #24 "tip formed on the distal end of the central body"	Plain and ordinary meaning.	"portion of the anchor body distal to the central body and distinguishable from the 'central body'
Term #25 "tip portion formed on the distal end of the central body"	Plain and ordinary meaning	"portion of the anchor body distal to the central body and distinguishable from the 'central body'
Term #26 "tip portion disposed at the distal end of the central body"	Plain and ordinary meaning.	"portion of the anchor body distal to the central body and distinguishable from the 'central body'"
Term #27 "central body"	Plain and ordinary meaning.	"portion of the anchor body proximal to the tip portion and distinguishable from the tip portion"

a) The Parties' Positions

The parties dispute whether the "central body" must be distinguishable from the "tip" or "tip portion." Plaintiff argues that the claim language itself fully describes the relationship

between the tip/tip portion and the central body. (Dkt. No. 118 at 22). Plaintiff contends that neither claim 1 nor claim 5 of the '634 Patent recites a "tip" or "tip portion." (*Id.*). Plaintiff further argues that this illustrates that Defendants are seeking to import limitations into the claims. (*Id.*). Plaintiff also argues that it would be improper to read into the claims a requirement that the "tip" or "tip portion" must be distinguishable from a central body. (*Id.*). Plaintiff contends that the claim language itself teaches against such a narrow reading. (*Id.*) Plaintiff further argues that the specification describes the "tip" or "tip portion" as being part of the anchor body. (*Id.* at 22–23) (citing '031 Patent at 2:7–9, 3:58–61).

Defendants respond that these terms relate to the ratio requirements discussed above, because the "portion of the thread" relevant for determining the ratio between inner and outer thread diameter must spiral around the "central body." (Dkt. No. 122 at 14). Defendants contend that any thread around the tip would be irrelevant when determining whether the anchor satisfies the ratio requirements. (*Id.*). Defendants argue that the tip is distinguishable from the central body in two different ways. (*Id.* at 15). Defendants contend that the first distinction is that the tip is unthreaded while the body is threaded. (*Id.*). Defendant further contend that the tip has a more pronounced taper than the central body. (*Id.*). According to Defendants, either of these features would be sufficient to distinguish the "central body" under their construction. (*Id.*).

Defendants further argue that the claims do not cover completely undifferentiated anchors with a thread that extends all the way to the distal-most geometric point. (*Id.*). Defendants argue that the only way to map the "central body" and "tip" requirements on such an anchor would be to draw an arbitrary line. (*Id.*). Defendants further argue that during prosecution of a subsequent continuation, the patentee stressed that the tip is not "just [the] point at the very end of the anchor." (*Id.* at 16) (citing Dkt. Nos. 122-4, 122-5). Defendants contend that

construing the claims to cover an undifferentiated anchor would leave unanswered the question of where the body ends and the tip begins. (Dkt. No. 122 at 16).

According to Defendants, their proposed constructions avoid these problems and reflect the patentees' decision to refer separately to the "central body" and the "tip." (*Id.*). Defendants argue that their constructions also track the only disclosed embodiment in the specification, in which central body 4 is separate from the tip portion. (*Id.*). Defendants further argue that the requirement that the tip be "formed on" or "disposed at" the distal end of the central body reinforces that the two structures must be distinguishable. (*Id.*). Defendants contend that their construction gives meaning to "formed on" and "disposed at." (*Id.*). Defendants also argue that Plaintiff relies on a sentence taken out-of-context to argue that "the specification describes the 'tip' or 'tip portion' to be part of the central body." (*Id.* at 17). Regarding the claims of the '634 Patent, Defendants argue that Plaintiff offers no reason for construing "central body" to have one meaning in the '031 and '499 Patents, and a different one in the '634 Patent. (*Id.*).

Plaintiff replies that not all of the asserted claims require a "tip" or "tip portion." (Dkt. No. 125 at 6). Plaintiff argues that when the patentees intended to claim a "tip," they did so explicitly. (*Id.*) (citing '499 Patent at claims 1, 8). Plaintiff further argues that none of the asserted claims require a "distinguishable" tip. (Dkt. No. 125 at 6). Plaintiff further contends that none of the asserted claims require an unthreaded tip, and only certain of the asserted claims require a more pronounced taper. (*Id.*) (citing '499 Patent at claim 8). According to Plaintiff, Defendants are trying to import limitations that should not be spread throughout all of the claims of the Corkscrew Patents. (Dkt. No. 125 at 8).

For the following reasons, the Court finds that the phrases/term **"tip formed on the distal end of the central body," "tip portion formed on the distal end of the central body,"**

“tip portion disposed at the distal end of the central body,” and **“central body”** should be given their plain and ordinary meaning.

b) Analysis

The phrase “tip formed on the distal end of the central body” appears in claim 1 of the ’499 Patent. The phrase “tip portion formed on the distal end of the central body” appears in claims 5, 8, and 12 of the ’031 Patent. The Court finds that the phrase is used consistently in the claims and is intended to have the same meaning in each claim. The phrase “tip portion disposed at the distal end of the central body” appears in claim 1 of the ’031 Patent. The term “central body” appears in claims 1, 5, 8, and 12 of the ’499 Patent, claim 1 of the ’031 Patent, and claims 1 and 5 of the ’634 Patent. The Court finds that the term is used consistently in the claims and is intended to have the same meaning in each claim. The Court further finds that the intrinsic evidence indicates that the claims do not require the tip to be separate/distinct from the central body. As Plaintiff correctly argues, not all of the asserted claims require a “tip” or “tip portion.” For example, claims 1 and 5 of the ’634 Patent do not recite a “tip.” The Court is not persuaded that it should redraft the claim language to add a “tip” limitation to these claims. Indeed, the claim language indicates that when the patentees intended to claim a “tip,” they explicitly recited a “tip” in the claims.

Moreover, the claim language recites the relationship between the “tip” / “tip portion” and the “central body.” For example, the disputed terms recite that the tip/tip portion is “formed on” or “disposed at” the distal end of the central body. This claim language contradicts Defendants’ argument that the “tip” or “tip portion” must be “distinguishable” from the central body. Similarly, the specification states that “[t]he central body preferably tapers from the proximal end to terminate in a point at the distal end. . . . The point is approached by a concave

cone having a taper more pronounced than that of the central body." '031 Patent at 2:8–12; *see also* 3:57–61 ("The central core preferably is circular in cross-section, and tapers from a maximum diameter near proximal end 8 to a minimum diameter toward distal end 14."). Consistent with the claims, the specification does not indicate that the "tip" or "tip portion" must be "distinguishable" from the central body.

The Court also rejects Defendants' construction because it is ambiguous and fails to indicate what makes the tip "distinguishable" from the central body. Defendants argue that construing the claims to cover an undifferentiated anchor would invite the question of where the body ends and the tip begins. In their brief, Defendants contend that the tip must be "distinguishable" because (1) it is unthreaded and (2) it has a more pronounced taper than the central body in Arthrex's figures. (Dkt. No. 122 at 6). Contrary to Defendants' suggestion, none of the asserted claims require an unthreaded tip, and only certain of the asserted claims require a more pronounced taper. For example, claim 1 of the '031 Patent recites "a tip portion disposed at the distal end of the central body having a taper which is greater than the taper of the central body." '031 Patent at claim 1, *see also* '499 Patent at claim 8 (reciting "the tip portion having a taper that is greater than the taper of the major portion of the central body."). Thus, contrary to Defendants' contention, the claim language indicates how to map the "central body" and "tip" requirements. Accordingly, to the extent that Defendants argue that the tip must be separate or distinct from the central body, the Court rejects this argument.

Regarding the prosecution history of the continuation application, the Court is not persuaded that it clearly and unambiguously requires the tip to be separate or distinct from the central body. Contrary to the claim language at issue, the rejected claim limitation in the prosecution history explicitly recited "at least a portion of the tip is threadless." (Dkt. No. 122-5

at 4). The examiner rejected this claim limitation as being new matter that failed to comply with the written description requirement. (*Id.*). At best, this indicates that the examiner understood that the recited tip could include threads. Finally, in reaching its conclusion, the Court has considered the extrinsic evidence submitted by the parties, and given it its proper weight in light of the intrinsic evidence.

c) Court's Construction

The phrases/term **"tip formed on the distal end of the central body," "tip portion formed on the distal end of the central body," "tip portion disposed at the distal end of the central body,"** and **"central body"** will be given their plain and ordinary meaning.

3. "a suture anchor assembly for securing suture to soft bone," "an assembly of a suture anchor for securing suture to soft bone, and a driver for driving the suture anchor into said soft bone," "a suture anchor for securing tissue to soft bone,"

Disputed Term	Plaintiff's Proposal	Defendants' Proposal
Term #23 "a suture anchor assembly for securing suture to soft bone"	The preamble is limiting and should be understood according to its plain and ordinary meaning.	The phrases "for securing suture to soft bone" and "for securing tissue to soft bone" are non-limiting statements of intended use.
Term #22 "an assembly of a suture anchor for securing suture to soft bone, and a driver for driving the suture anchor into said soft bone"	The preamble is limiting and should be understood according to its plain and ordinary meaning.	The phrases "for securing suture to soft bone" and "for driving the suture anchor into said soft bone" [AGREED] are non-limiting statements of intended use.
"a suture anchor for securing tissue to soft bone"	The preamble is limiting and should be understood according to its plain and ordinary meaning.	The phrase "for securing tissue to soft bone" is a non-limiting statement of intended use.

a) The Parties' Positions

The parties dispute whether the preamble language of "for securing suture to soft bone" is

limiting, as Plaintiff proposes. Plaintiff argues that the preambles of the originally rejected claims recited just a suture anchor. (Dkt. No. 118 at 20). Plaintiff contends that the preambles were amended to include the limitation "for securing suture to soft bone," to distinguish prior art. (*Id.* at 21) (citing Dkt. No. 110-9). According to Plaintiff, the patentees argued that the prior art (Lasner) teaches a bone screw, not an anchor for anchoring suture to bone. (*Id.*). Plaintiff contends that this claim language was relied upon to overcome the rejection and secure allowance. (Dkt. No. 118 at 21) (citing Dkt. No. 110-10). Plaintiff further argues that the patentees again made this argument in a later response to distinguish other prior art bone screws (Halm) from the claimed invention relating to securing "suture" or "tissue" to soft bone. (Dkt. No. 118 at 21) (citing Dkt. No. 110-8).

Plaintiff also argues that the patentees used this same language in the preambles of the asserted claims of the '499, '031, and '634 Patents. (Dkt. No. 118 at 21). Plaintiff contends that the patentees "clear reliance on the preamble during prosecution to distinguish the claimed invention from the prior art transforms the preamble into a claim limitation because such reliance indicates use of the preamble to define, in part, the claimed invention." (*Id.*) (citing *Catalina Mktg. Inc. v. Coolsavings.com*, 289 F.3d 801, 808-809 (Fed. Cir. 2002)). According to Plaintiff, the patentees' amendment of the preamble in the parent '162 Patent to overcome prior art renders the claim term limiting. (Dkt. No. 118 at 21). Regarding the term that claims a suture anchor configured to secure "tissue" to bone, Plaintiff contends that this claim term would also be limiting for the same reasons. (*Id.*).

Defendants respond that all the Corkscrew Patents claims are to products and have bodies that define "structurally complete" inventions. (Dkt. No. 122 at 17). Defendants argue that in addition to the amendments to the preambles, the patentee simultaneously added structural

requirements and highlighted the structural features. (*Id.*) (citing Dkt. No. 110-9) (*See, e.g.*, an increase in thickness "at the outer edge of the thread"). Defendants contend that the examiner then entered a new rejection that addressed these structural features while ignoring the "for securing suture to soft bone" preamble language. (Dkt. No. 122 at 18) (citing Dkt. No.110-7). Defendants further argue that the patentees responded by adding additional structural language to the body of the claims. (*Id.*). According to Defendants, the record falls short of the "clear reliance" on the preamble necessary to render "for securing suture to soft bone" a limitation. (Dkt. No. 122 at 18) (citing *Symantec Corp. v. Computer Assoc. Int'l*, 522 F.3d 1279, 1288-89 (Fed. Cir. 2008)).

Defendants further argue that the disputed language merely describes particular ways in which the suture anchors may be used. (Dkt. No. 122 at 18). Defendants contend that Plaintiff seeks to "impose a method limitation on an apparatus claim without justification." (*Id.*) (citing *Catalina*, 289 F.3d at 810). Defendants also argue that securing tissue to bone is merely one of the ways in which suture anchors can be used. (Dkt. No. 122 at 18) (citing 122-8).

Plaintiff replies that the patentee amended the preambles of the claims at issue to claim around a bone anchor to *Lasner*. (Dkt. No. 125 at 7). Plaintiff contends that the examiner did not ignore the patentees' amendment and corresponding arguments, because the examiner had to consider them as a matter of patent office rule. (*Id.*). Plaintiff argues that the examiner removed the rejection based on *Lasner* because the arguments were deemed to be persuasive. (*Id.*). According to Plaintiff, the preambles are limiting because they were added to distinguish *Lasner*. (Dkt. No. 125 at 7).

For the following reasons, the Court finds that the preamble phrases **"a suture anchor assembly for securing suture to soft bone," "an assembly of a suture anchor for securing**

suture to soft bone, and a driver for driving the suture anchor into said soft bone," and **"a suture anchor for securing tissue to soft bone"** are not limiting.

b) Analysis

The preamble phrase "a suture anchor assembly for securing suture to soft bone" appears in claims 1 and 5 of the '643 Patent. The Court finds that the phrase is used consistently in the claims and is intended to have the same meaning in each claim. The preamble phrase "an assembly of a suture anchor for securing suture to soft bone, and a driver for driving the suture anchor into said soft bone" appears in claim 5 of the '499 Patent. The preamble phrase "a suture anchor for securing tissue to soft bone" appears in claim 12 of the '499 Patent. As an initial matter, Plaintiff does not dispute that the "for driving . . . ." phrase is not limiting. (Dkt. No. 118 at 20). The Court agrees, and like the remaining language in the preamble, finds the language to be a statement of intended use of the claimed suture anchor.

Turning to the remaining disputed language, the Court finds that all of the asserted claims in the Corkscrew Patents are to products and have bodies that define "structurally complete" inventions. For example, claim 1 of the '634 Patent recites a "suture anchor" having a "central body," a "drive head," a "suture eyelet," and a "continuous thread disposed in a spiral around the central body." All of these claim elements are recited in the body of the claim. Likewise, claim 5 of the '634 Patent and claim 5 of the '499 Patent recite a "suture anchor" having a "central body," a "drive head," and a "continuous thread disposed in a spiral around the central body." Again, all of these claim elements are recited in the body of the claims. Accordingly, the preamble is not limiting because "the claim body describes a structurally complete invention such that deletion of the preamble phrase does not affect the structure or steps of the claimed invention." *Catalina,* 289 F.3d at 809.

Regarding the amendments to the preamble in the parent '162 Patent, the Court finds that in addition to the amendments to the preamble, the patentee also added structural requirements to the body of the claim and argued the significance of the added structural features. (Dkt. No. 110-9 at 2–6) (adding the limitation of an increase in thickness "at the outer edge of the thread"). The examiner then entered a new rejection that addressed these structural features. (Dkt. No. 110-7 at 96–98). The patentees responded by adding additional structural language to the body of the claims. (Dkt. No. 110-7 at 101–04).

The Court agrees with Defendants that this falls short of the "clear reliance" on the preamble necessary to render the disputed phrase as a limitation. *Symantec Corp. v. Computer Assoc. Int'l*, 522 F.3d 1279, 1288-89 (Fed. Cir. 2008) (finding that the prosecution history failed to demonstrate "clear reliance on the preamble," as applicants had "concurrently" added language to the body of the claim); *Catalina,* 289 F.3d at 810 (noting that applicants had added structural limitations and that the examiner had treated preamble language as "insignificant"). Instead, the Court finds that the disputed language is an intended use of the claimed suture anchor. It is well established that these type of "use descriptions . . . are rarely treated as claim limitations." *Marrin v. Griffin*, 599 F.3d 1290, 1294 (Fed. Cir. 2010). Finally, in reaching its conclusion, the Court has considered the extrinsic evidence submitted by the parties, and given it its proper weight in light of the intrinsic evidence.

c) Court's Construction

The preamble phrases **"a suture anchor assembly for securing suture to soft bone," "an assembly of a suture anchor for securing suture to soft bone, and a driver for driving the suture anchor into said soft bone,"** and **"a suture anchor for securing tissue to soft bone"** are not limiting.

4. "drive head"

Disputed Term	Plaintiff's Proposal	Defendants' Proposal
Term #20 "drive head"	"the portion of the suture anchor that engages the driver"	"portion of the suture anchor received by the driver"

a) The Parties' Positions

The parties dispute whether the "drive head" is the portion of the anchor that "engages" the driver, as Plaintiff proposes, or whether it is any portion that is "received by" the driver, as Defendants propose. Plaintiff argues that claim 5 of the '634 Patent recites "a drive head disposed on the proximal end of the central body for receiving the distal end of the driver." (Dkt. No. 118 at 18). Plaintiff contends that if the "drive head" is merely the portion of the suture anchor received by the driver, it would impermissibly render the term "drive head" meaningless. (*Id.*). Plaintiff further argues that Defendants' construction also improperly reads out the term "drive." (*Id.*). According to Plaintiff, a "drive head" is not merely something that is received, but instead requires force. (*Id.* at 19) (citing Dkt. No. 110-14).

Plaintiff further argues that claim 11 of the '634 Patent recites that the drive head and driver are both hexagonal shapes which are designed to engage one another for the application of force. (Dkt. No. 118 at 19). Plaintiff contends that the specification supports the construction of "drive head" as the part that engages or is driven. (*Id.*) (citing '634 Patent at 2:64–66). Plaintiff further argues that other contemporary suture anchor patents define a "drive head" as a portion that engages the driver so force can be applied. (Dkt. No. 118 at 19) (citing Dkt. No. 112-2).

Defendants respond that the Corkscrew Patents describe a suture anchor having an eyelet "in" the drive head and "channels" formed on each "side" of the drive head. (Dkt. No. 122 at 19) (citing '031 Patent at 3:45–52). Defendants argue that various claims likewise refer to an eyelet "in the drive head" and channels "on the drive head." (Dkt. No. 122 at 19). Defendants contend

that these features involve gaps through which suture can pass. (*Id.*). Defendants argue that there are portions of the drive head that are received by the driver, but cannot "engage" the driver. (*Id.*).

Defendants also argue that the prior art Goble repeatedly refers to the drive head (*i.e.*, "connector portion") as being "received in" an "inserter" (*i.e.*, driver). (*Id.*) (citing Dkt. No. 122-10). Defendants contend that neither Goble nor Plaintiff's own specification ever describe the drive head as "engaging" the driver. (Dkt. No. 122 at 19). Defendants also argue that the "for receiving . . ." language in claim 5 of the '634 Patent is a statement of intended use in a structurally complete apparatus claim, and would not limit the claim. (*Id.*). Defendants further argue that Plaintiff's contention that "a 'drive head' requires force" wrongly treats the corkscrew claims as if they were directed to methods rather than products. (*Id.*).

Plaintiff replies that the drive head is configured to "engage" a driver so that the driver can turn the anchor into bone, otherwise the drive head would have no purpose. (Dkt. No. 125 at 7). Plaintiff further argues that its construction is consistent with the plain and ordinary meaning of "drive head." (*Id.*). Regarding Defendants' construction, Plaintiff argues that a portion that is "received" does not necessarily engage the driver. (*Id.*). Plaintiff contends that the channels and eyelet that accommodate the suture of the suture anchor, though received by the driver, should not alone be construed to be the "drive head." (*Id.* at 8). Plaintiff also contends that if the portion of the suture anchor is not engaged with the driver, it does not function as a "drive head." (*Id.*).

For the following reasons, the Court finds that the term **"drive head"** should be given its plain and ordinary meaning.

b) Analysis

The term "drive head" appears in claims 1, 16, 19, 20, and 22 of the '031 Patent, claims

1, 2, 4, 5, 8, 9, 11, 12, 14, and 16 of the '499 Patent, and claims 1, 2, 4, 5, 9, 11, and 12 of the '634 Patent. The Court finds that the term is used consistently in the claims and is intended to have the same meaning in each claim. The Court further finds that the term does not require construction because it is unambiguous, is easily understandable by a jury, and should be given its plain and ordinary meaning.

The intrinsic evidence indicates that the drive head is the portion of the anchor that is configured to receive a physical force. The specification states that "[t]he present invention also provides a suture anchor and driver assembly for driving the corkscrew suture anchor into bone." '031 Patent at 2:58–63. The specification further states that "[a] hexagonal socket formed on the distal end of the tube holds the suture anchor for rotation and installation into the bone." '031 at 2:61–63, *see also* '634 Patent at claim 11. A person of ordinary skill in the art would understand that "driving" via a hexagonal socket indicates that the recited "drive head" is the portion of the suture anchor configured to receive a physical force. The extrinsic evidence submitted by Plaintiff is consistent with the intrinsic evidence, and defines "drive" as "[t]o cause (something) to move along by direct application of physical force; . . .)." (Dkt. No. 110-14 at 6). This evidence further confirms that the term "drive head" should be given it plain and ordinary meaning.

Turning to Defendants' construction, the Court rejects it because Defendants' construction only requires "receiving" the driver. As indicated, a "drive head" contemplates a transfer of force, and is more than just something that is "received." A "head" could be received by the driver, but may not be configured to receive a physical force. Defendants argue that there are portions of the drive head that are received by the driver, but cannot "engage" the driver. (Dkt No. 122 at 19) (referring to the "eyelet" and "channel" requirements). The Court finds that

the plain and ordinary meaning does not preclude the "drive head" from including additional claimed features. Moreover, the "drive head" is not required to "receive" the driver on all portions of every possible surface. Instead, the "drive head" is the portion of the suture anchor that receives a physical force. Simply stated, it is the recited "drive head" that enables the anchor to be rotated and installed into the bone. '031 at 2:61–63. This is the plain and ordinary meaning of the term "drive head," and the term does not require further construction. Finally, in reaching its conclusion, the Court has considered the extrinsic evidence submitted by the parties, and given it its proper weight in light of the intrinsic evidence.

c) Court's Construction

The term **"drive head"** will be given its plain and ordinary meaning.

5. "cleat"

Disputed Term	Plaintiff's Proposal	Defendants' Proposal
Term #21 "cleat"	"a component that pinches suture under tension"	"device around which suture can be wrapped"

a) The Parties' Positions

The parties dispute whether the cleat is a component that pinches the suture under tension, as Plaintiff proposes. Plaintiff contends that the specification describes the cleat as pinching under tension. (Dkt. No. 118 at 19) (citing '499 Patent at 3:4–8). Plaintiff also argues that its construction is consistent with the use of the term "cleat" as described by Defendant ArthroCare's Patent. (Dkt. No. 118 at 20) (citing U.S. Patent No. 7,090,690, Fig. 7 and 9:53–10:8). Plaintiff further contends that its construction is consistent with the American Heritage Dictionary's definition of cleat. (Dkt. No. 118 at 20) (citing Dkt. No. 111-11).

Defendants respond that their construction of "cleat" flows from the structural language in the specification, which repeatedly describes wrapping suture "around" a cleat. (Dkt. No. 122

at 20) (’031 Patent at 2:66–3:2, 4:39). Defendants contend that Plaintiff seeks a purely functional construction that is divorced from the specification and would limit cleats to devices that actively “pinch” suture. (Dkt. No. 122 at 20). Defendants argue that Plaintiff attempts to import this functional requirement by misreading a single “whereby” clause in the specification concerning the purpose of wrapping the suture around the cleat. (*Id.*) (’031 Patent at 3:2–6). Defendants contend that the specification does not specify where the suture “is pinched,” because suture can be pinched at any structure in contact with the suture. (Dkt. No. 122 at 20).

Defendants further argue that dictionaries confirm that cleats operate by wrapping and need not pinch. (*Id.*) (citing Dkt. Nos. 122-11, 122-12, 122-13, 122-14). Defendants contend that the dictionary definition provided by Plaintiff includes an entry describing “projecting arms or ends” for “winding or securing” lines. (Dkt. No. 122 at 20) (citing Dkt. No. 111-11). Defendants further contend that the definition selected by Plaintiff does not say anything about “pinching.” (Dkt. No. 122 at 20).

Plaintiff replies that its construction is consistent with not only the specification, but also the way in which Defendants use the term “cleat” in Defendant ArthroCare’s Patent. (Dkt. No. 125 at 8). Plaintiff further argues that the Corkscrew Patents explain that the cleat pinches suture under tension. (Dkt. No. 125 at 8) (citing ’031 Patent at 2:55–3:9). Plaintiff further contends that the term “whereby” directly modifies “cleat,” and the only structure that could “pinch” suture under tension is the cleat. (Dkt. No. 125 at 8).

For the following reasons, the Court finds that the term **“cleat”** should be construed to mean **“a component that the suture can be wrapped around.”**

b) Analysis

The term “cleat” appears in claims 6 and 7 of the ’499 Patent, and in claims 7 and 8 of

the ’634 Patent. The Court finds that the term is used consistently in the claims and is intended to have the same meaning in each claim. The intrinsic record indicates that the recited “cleat” is a component of the driver that the suture can be wrapped around. The specification states that “[t]he driver is provided with a cleat on the side of the handle.” ’499 Patent at 3:1–2. The specification further states that the suture “can be wrapped around the cleat and fixed for shipping in a slot in the cleat using adhesive foam.” *Id.* at 3:3–4. Similarly, in describing Figure 4, the specification states that “[t]he suture is wrapped around cleat 36.” *Id.* at 4:47. Likewise, claim 7 of the ’634 Patent recites that the driver assembly includes “cleat for holding the suture on an outer surface of the handle.” Accordingly, the Court finds that the recited “cleat” is a component of the driver that the suture can be wrapped around.

Plaintiff contends that the Corkscrew Patents explain that the cleat pinches suture under tension. (Dkt. No. 125 at 8) (citing ’031 Patent at 2:55–3:9). The Court agrees that the specification indicates that the cleat may be used to place the suture under tension. However, the specification indicates that placing the suture under tension requires more than just the recited cleat. Moreover, placing the suture under tension is an intended result of using the cleat, and is not a required feature. Specifically, the specification states that “[t]the suture is wrapped around cleat 36,” and that “[t]ension on the suture aids in retaining the suture anchor in the distal end of the driver.” ’499 Patent at 4:47–49. Therefore, the Court rejects Plaintiff’s construction because it would limit the cleat to components that actively “pinch” the suture.

However, the Court’s construction does not preclude the recited cleat from participating in placing the suture under tension. Instead, the Court finds that the recited “cleat” is not required to pinch suture under tension, as Plaintiff proposes. The extrinsic evidence is consistent with the intrinsic evidence, and indicates that “cleats” operate by wrapping and need not pinch.

(Dkt. Nos. 122-11, 122-12, 122-13, 122-14). Likewise, the dictionary definition provided by Plaintiff defines "cleat" as "projecting arms or ends" for "winding or securing" lines. (Dkt. No. 111-11). Finally, in reaching its conclusion, the Court has considered the extrinsic evidence submitted by the parties, and given it its proper weight in light of the intrinsic evidence.

c) Court's Construction

The Court construes the term **"cleat"** to mean **"a component that the suture can be wrapped around."**

C. The Knotless Suture Anchor Patents

The parties' dispute focuses on the meaning and scope of seven terms/phrases in the Knotless Suture Anchor Patents.

1. "A system for interference fixation of a suture in a hole in bone," "interference device"

Disputed Term	Plaintiff's Proposal	Defendants' Proposal
Term #8 "A system for interference fixation of a suture in a hole in bone"	The preamble is limiting. A system that locks or jams suture by wedging suture between a component of the system and bone in the hole.	"a system capable of locking or jamming suture between a device and a bone sidewall by means of a negative fit (i.e., necessitating force sufficient to cause expansion in one mating part, or contraction in the other)"
Term #9 "interference device"	The component of the system, such as a screw or a plug, that wedges the suture against the hole in bone.	"a device that is capable of locking or jamming a suture or graft between the device and a bone sidewall by means of a negative fit (i.e., necessitating force sufficient to cause expansion in one mating part, or contraction in the other)"

a) The Parties' Positions

Defendants' original constructions for the "interference device" and "interference fixation" terms used the word "trapping" rather than "locking" or "jamming." (Dkt. No. 122 at

36). In their opposition brief, Defendants stated that they agree with Plaintiff's language, thereby "obviating the only 'point of dispute' that Arthrex identified." (*Id.*). Defendants further stated that "although S&N's exposition of 'negative fit' would be instructive to a jury, S&N agrees with Arthrex that 'lock[ing] or jamm[ing]' by '***wedging***' has the same scope as S&N's 'locking' or 'jamming' by '***negative fit***.'" (*Id.*) (emphasis in original).

Defendants contend that their construction should be adopted because they include the capability to lock or jam suture between a device and the bone sidewall. (*Id.*). According to Defendants, the asserted claims concern a system, not a method. Defendants further argue that Plaintiff characterizes interference fixation as "the ability to 'lock' or 'jam' suture by wedging." (*Id.*). Defendants contend that Plaintiff's constructions lack comparable language and would invite confusion as to whether the claims concern systems or methods. (*Id.*).

Plaintiff replies that the parties agree that the claims do not require a method step. (Dkt. No. 125 at 13). Plaintiff further argues that its construction does not require the action of locking or jamming suture. (*Id.*).

For the following reasons, the Court finds that the phrase **"A system for interference fixation of a suture in a hole in bone"** should be construed to mean **"a system capable of locking or jamming a suture by wedging suture between a device of the system and bone in the hole."** The Court further finds that the term **"interference device"** should be construed to mean **"a device that is capable of wedging the suture against the hole in bone."**

b) Analysis

The phrase "[a] system for interference fixation of a suture in a hole in bone" appears in claim 1 of the '272 Patent. The term "interference device" appears in claims 1, 2, and 3 of the '272 Patent. The Court finds that the term is used consistently in the claims and is intended to

have the same meaning in each claim. The Court further finds that the parties do not appear to have a material dispute regarding these terms. Although given the opportunity, neither party presented arguments regarding these terms at the claim construction hearing. Given that the claims are directed to a system, and not a method, the Court finds that the construction should indicate that device is capable of wedging the suture. The Court further finds that Defendants' "negative fit" language could be confusing and is unnecessary given the parties agreement on "lock[ing]" or "jamm[ing]" by "wedging." Finally, in reaching its conclusion, the Court has considered the extrinsic evidence submitted by the parties, and given it its proper weight in light of the intrinsic evidence.

c) Court's Construction

The Court construes the term the phrase **"A system for interference fixation of a suture in a hole in bone"** to mean **"a system capable of locking or jamming a suture by wedging suture between a device of the system and bone in the hole."** The Court construes the term **"interference device"** to mean **"a device that is capable of wedging the suture against the hole in bone."**

2. "a suture securing position where the second member locks suture in place"

Disputed Term	Plaintiff's Proposal	Defendants' Proposal
Term #3 "a suture securing position where the second member locks suture in place"	Plain and ordinary meaning. Alternatively, "a position where suture is jammed, fastened, or fixed in place by the second part"	"a securing position where the second member is capable of locking a suture between the second member and a bone sidewall by means of a negative fit (i.e., necessitating force sufficient to cause expansion in one mating part, or contraction in the other)"

a) The Parties' Positions

The parties dispute whether the phrase should be limited to requiring the second member

to lock or jam a suture by wedging the suture between the second member and bone, as Defendants propose. Plaintiff argues that dependent claim 5 of the '907 Patent, which depends from claims 4 and 1, recites "wherein the second member is configured to lock suture in place by wedging suture between the second member and bone." (Dkt. No. 118 at 27). According to Plaintiff, it would be improper to limit claim 1 to a position where suture is locked between the second member and bone. (*Id.*).

Plaintiff further contends that its construction is consistent with the embodiments shown in Figs. 17, 18A–B, 19, 24–28. (*Id.*). Plaintiff contends that its construction is also consistent with the plain and ordinary meaning of "lock," which is "to become fastened, fixed, or interlocked." (*Id.*) (citing Dkt. No. 108-6). According to Plaintiff, Defendants' construction improperly reads a disclosed embodiment into the claims. (Dkt. No. 118 at 27). Plaintiff further argues that there is nothing in the specification that supports a requirement of, or defines, a "negative fit." (*Id.*).

Defendants respond that prior to 2014, every disclosure in the family characterized the "present invention" as a configuration that secured suture against the "sidewalls" of the bone hole to achieve "much stronger fixation" than had been "achievable" with the prior art. (Dkt. No. 122 at 37). Defendants argue that the patentee revised these disclosures in 2014 when filing the application for the '907 Patent. (*Id.*). Defendants contend that the '907 Patent specification refers to "example embodiments" rather than the "present invention" when emphasizing the benefits of securing suture against bone sidewalls. (*Id.*) (citing '907 Patent at 9:65–10:5). Defendants argue that the patentee also added a generic reference to suture being "locked in place." (Dkt. No. 122 at 37). According to Defendants, the patentee relied exclusively on this newly-added sentence when justifying an amendment to require that the second member "lock" suture. (*Id.*) (citing

112-9).

Defendants also argue that Plaintiff maintains that the '907 Patent claims have an effective filing date of June 2000. (Dkt. No. 122 at 37). Defendants argue that Plaintiff's contention establishes, as a matter of law, "the temporal perspective for those of skill in the art" for purposes of the claim construction analysis. (*Id.*). Defendants contend that even if the '907 Patent's newly-added generic reference to suture being "locked in place" was relevant, "this single sentence in the specification cannot overcome the overwhelming evidence in other parts of the specification," which characterizes the invention solely in terms of wedging suture between an interference device and a bone tunnel. (*Id.* at 38).

Defendants further argue that Plaintiff improperly treats claim differentiation as a rigid rule that purportedly requires construing the independent claims more broadly. (*Id.*). Defendants contend that the fact that the patentee drafted dependent claims in 2014 does not justify construing the independent claims more broadly when Plaintiff maintains that those claims are entitled to that same 2000 filing date. (*Id.*). Finally, Defendants argue that relying on a dictionary definition of "lock" in the abstract would ignore the intrinsic record and result in an "unjustifiably broad" construction. (*Id.*).

Plaintiff replies that claim 5 of the '907 Patent and the embodiments shown in Figures 17, 18A–B, 19, and 24–28 support its construction. (Dkt. No. 125 at 13). Plaintiff argues that its construction is also consistent with the plain and ordinary meaning of "lock." (*Id.*). Plaintiff also argues that Defendants ignore that interference fixation/device is a term of art in the medical field that specifically refers to wedging something into place. (*Id.*). Plaintiff contends that the claim term at issue merely refers to "lock[ing] suture in place." (*Id.* at 14). Plaintiff argues that Defendants improperly equate "lock[ing] suture in place" with interference fixation. (*Id.*).

Plaintiff further contends that the dependent claims of the ’907 Patent explicitly call out wedging suture against bone. (*Id.*) (citing ’907 Patent at claims 5 and 20). According to Plaintiff, Defendants are attempting to limit the claims to a preferred embodiment. (Dkt. No. 125 at 14).

For the following reasons, the Court finds that the phrase **“a suture securing position where the second member locks suture in place”** should be construed to mean **“a securing position where the second member is capable of locking or jamming a suture by wedging the suture between the second member and bone.”**

b) Analysis

The phrase “a suture securing position where the second member locks suture in place” appears in claims 1 and 16 of the ’907 Patent. The Court finds that the phrase is used consistently in the claims and is intended to have the same meaning in each claim. As an initial matter, the Court finds that term should be construed consistent with the patents in the family filed before 2014. The parent patent was filed in 2000. Plaintiff made significant amendments to the specification when the ’907 Patent was filed in 2014. For example, the ’907 specification refers to “example embodiments” rather than the “present invention” when emphasizing the benefits of securing suture against bone sidewalls. ’907 Patent at 9:65–10:5.

Prior to 2014, every disclosure in the family characterized the “present invention” as a configuration that secured suture against the “sidewalls” of the bone hole. The specifications indicate that this provides a “much stronger fixation” than had been “achievable” with the prior art. ’281 Patent at 6:15–23; ’272 Patent at 4:53–59; ’369 Patent at 4:38–44. Notwithstanding the amendments discussed above, even the ’907 specification states that a “significant advantage” of the “present invention” is that the second member locks the suture by wedging it between the second member and bone. ’907 Patent at 8:1–9. As with the other patents, the ’907 states that

this confers "a much stronger fixation of the graft to the bone than is achievable with prior art procedures and devices." *Id.* Accordingly, a person of ordinary skill in the art would understand that the recited "lock" is by wedging the suture between the second member and bone.

Plaintiff argues that dependent claims 5, 6, and 21 of the '907 Patent indicate that it would be improper to limit claim 1 to a position where the suture is locked between the second member and bone. (Dkt. No. 118 at 27). The Court disagrees and notes that claim differentiation is not a rigid rule that always requires construing the independent claims more broadly. Especially here where Plaintiff maintains that the broader claim set drafted in 2014 is entitled to a 2000 filing date. *ICU Med., Inc. v. Alaris Med. Sys., Inc.*, 558 F.3d 1368, 1376 (Fed. Cir. 2009) (agreeing with the district court's rejection of claim differentiation argument based on claims added "years after the filing date of the original patents" and after the launch of allegedly infringing products).

Plaintiff further argues that Defendants' construction would improperly read a disclosed embodiment into the claim. The Court disagrees and finds that every specification in the family described this feature as an advantage of the "present invention." Therefore, it is not improper to include the feature in the claims because that is how a person of ordinary skill in the art would interpret the claims. *Verizon Servs. Corp. v. Vonage Holdings Corp.*, 503 F.3d 1295, 1308 (Fed. Cir. 2007) ("When a patent thus describes the features of the 'present invention' as a whole, this description limits the scope of the invention."). To be sure, the disputed phrase is in the context of moving the recited "second member" to secure the suture in place. The intrinsic evidence indicates that this is occurs when the second member locks the suture by wedging it between the second member and bone. Finally, in reaching its conclusion, the Court has considered the extrinsic evidence submitted by the parties, and given it its proper weight in light of the intrinsic

evidence.

c) Court's Construction

The Court construes the term the phrase **"a suture securing position where the second member locks suture in place"** to mean **"a securing position where the second member is capable of locking or jamming a suture by wedging the suture between the second member and bone."**

3. "a width [of the implant] smaller than the inner diameter of the cannulated interference device"

Disputed Term	Plaintiff's Proposal	Defendants' Proposal
Term #7 "a width [of the implant] smaller than the inner diameter of the cannulated interference device"	Plain and ordinary meaning. Alternatively, "the implant has a width along its length that is smaller than the inner diameter of the cannulated interference device"	"and having its largest width smaller than the inner diameter of the cannulated 'interference device'"

a) The Parties' Positions

The parties dispute whether a width of the implant must be smaller than the inner diameter of the cannulated interference device, as Plaintiff proposes, or whether the implant's largest width must be smaller than the inner diameter of the cannulated interference device, as Defendants propose. Plaintiff argues that Defendants attempt to improperly limit the claim term to a disclosed embodiment. (Dkt. No. 118 at 30) (citing '272 Patent at Figure 1). Plaintiff contends that the claims do not refer to the width as being the largest width, but instead refer to a width. (Dkt. No. 118 at 30). Plaintiff argues that this could be any width along the length of the implant. (*Id.*). Plaintiff further contends that once suture is passed through the eyelet of an implant as shown in Figures 1 and 8 of the '272 Patent, the implant is not fully inserted into the cannulated interference device. (*Id.*). According to Plaintiff, there would be no reason for a width

smaller than the cannulated interference device to be construed as the largest width, or for the entire implant to fit within the cannulated interference device. (*Id.*).

Defendants respond that Figure 1 indicates that "[t]he width 'w' (FIG. 1)" is the largest width. (Dkt. No. 122 at 39) (citing '272 Patent at 3:66–4:2). Defendants further argue that the Summary of the Invention states the "the present invention" includes an implant that "securely engages and locks" into the interference device. (Dkt. No. 122 at 39). According to Defendants, this is only possible if it fits inside the interference device. (*Id.*). Defendants also argue that Plaintiff's construction would wrongly extend the claims to cover systems in which the implant has a proximal end that is wider than the inner diameter of the interference device. (*Id.*). According to Defendants, this type of an implant would be unable to lock into the interference device. (*Id.*).

Defendants further contend that under Plaintiff's construction the disputed claim language could be satisfied by any implant in which the distal end tapers to a point. (*Id.*). Defendants argue that Plaintiff later filed a continuation-in-part application that expressly discloses such a "pointed tip" embodiment, but says nothing about "width" beyond the definition provided in the earlier '272 Patent. (*Id.*) (Dkt. No. 122-24). Defendants argue that this confirms that "a width" must be the largest width. (Dkt. No. 122 at 39).

Plaintiff replies that the claims refer to a width, and not the largest width. (Dkt. No. 125 at 14). Plaintiff contends that there is nothing in the intrinsic record or claims that require the implant to fit within the interference device. (*Id.*). Plaintiff argues that the claim term merely refers to a width of the implant that is smaller than the diameter of the interference device. (*Id.* at 15).

For the following reasons, the Court finds that the phrase **"a width smaller than the**

inner diameter of the cannulated interference device" should be give its plain and ordinary meaning.

b) Analysis

The phrase "a width smaller than the inner diameter of the cannulated interference device" appears in claim 1 of the '272 Patent. The Court finds that the phrase does not require construction because it is unambiguous, it is easily understandable by a jury, and it should be given its plain and ordinary meaning. The claims refer to a width, and not the largest width as Defendants propose. Defendants contend that Figure 1 indicates that "[t]he width 'w' (FIG. 1)" is the largest width. (Dkt. No. 122 at 39) (citing '272 Patent at 3:66–4:2). Defendants are correct that Figure 1 labels a width "w." However, contrary to Defendants' contention, the embodiments do not indicate that the width "w" must be both (1) the largest width, and (2) smaller than the inner diameter of the cannulated interference device. Claim 1 recites "a cannulated interference device preloaded on the driver and disposed coaxially with the shaft," and an "implant being releasably attached at the distal end of the driver." '272 Patent at claim 1. There is nothing in the claim language that requires the width to be the largest width.

Defendants contend that the Figures support their construction because they show the eyelet's largest width inside the interference device. (Dkt. No. 122 at 39 n.32). The Court disagrees that the claims should be limited as Defendants propose. In fact, Figure 7 of the '272 Patent illustrates the end of recited implant 50 outside of the interference device 20.

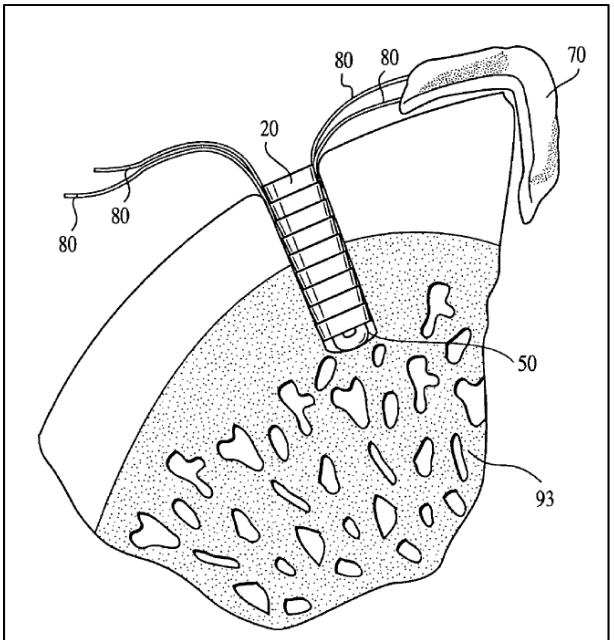

FIG. 7

'272 Patent at Figure 7. Therefore, Figure 7 indicates that the end of implant, labeled "w" in Figure 1, does not need to be inside "the inner diameter of the cannulated interference device," as Defendants propose. Accordingly, the Court rejects Defendants' construction.

c) Court's Construction

The phrase **"a width smaller than the inner diameter of the cannulated interference device"** will be given its plain and ordinary meaning.

4. "most distal end of the implant"

Disputed Term	Plaintiff's Proposal	Defendants' Proposal
Term #4 "most distal end of the implant"	Plain and ordinary meaning. Alternatively, "a distal portion of a distal end of the implant"	Indefinite

a) The Parties' Positions

The parties dispute whether a person of ordinary skill in the art could determine with

"reasonable certainty" whether or not an eyelet is located at the "most distal end of the implant." Plaintiff argues that the term is sufficiently clear in the context of the claims. (Dkt. No. 118 at 28). Plaintiff contends that one of ordinary skill would understand that the aperture at the "most distal end of the implant" is located at a distal portion of a distal end of the implant, as shown in Figures 1 and 9 of the '272 Patent and described in the specification. (*Id.*) ('272 Patent at 3:55–4:2, 4:63–5:8).

Defendants respond that there are no "objective boundaries" for drawing a dividing line and assessing whether a given eyelet is located at the "most distal end of the implant." (Dkt. No. 122 at 40). Defendants argue that Plaintiff's contention does not address the real question of how far away the eyelet can be from the "absolute end" while still being at "most distal end." (*Id.*). Defendants further contend that the '272 Patent never even mentions an eyelet being at "most distal end" of the implant, and that the claim language was added during prosecution. (*Id.* at 41).

Plaintiff replies that claim 1 and Figures 1 and 9 of the '272 Patent describe and show the aperture located at the most distal end of the implant. (Dkt. No. 125 at 15). Plaintiff contends that Defendants failed to provide the "clear and convincing" evidence required to demonstrate indefiniteness. (*Id.*). Plaintiff also argues that no expert testimony is submitted on the issue. (*Id.*). According to Plaintiff, one can ascertain the scope of the claimed invention with reasonable certainty (*Id.*).

For the following reasons, the Court finds that the phrase **"most distal end of the implant"** is indefinite.

b) Analysis

The term "most distal end of the implant" appears in claim 1 of the '272 Patent. Defendants contend that the term is indefinite because there are no "objective boundaries" for

drawing a dividing line and assessing whether a given eyelet is located at "most distal end of the implant." The Court agrees. Starting with the claim language, claim 4 of the '272 Patent recites that the aperture may be a horseshoe shape. In contrast, claim 5 of the '272 Patent recites that the aperture may be an eyelet configuration. Plaintiff argues that, in the case of the eyelet configuration, the aperture "would not be located at the absolute end or the eyelet would not be fully enclosed." (Dkt. No. 118 at 28). Thus, Plaintiff proposes an alternative construction that replaces "most distal end" with "a distal portion of a distal end."

The Court finds that Plaintiff's alternative construction adds further ambiguity and illustrates that the claim language is indefinite. Specifically, the claim language and the specification provide no "objective boundaries" to determine how far away the eyelet can be from the "absolute end," while still being at the "most distal end," or at "a distal portion of a distal end." Moreover, the '272 Patent never mentions an eyelet being at the "most distal end" of the implant. The disputed claim language was added during prosecution. Accordingly, the Court finds that Defendants have meet their burden and shown by clear and convincing evidence that the claims, when read in light of the intrinsic evidence, fail to inform with reasonable certainty those skilled in the art about the scope of the invention.

Finally, during the claim construction hearing, Plaintiff argued that Defendants failed to provide expert testimony regarding this term. The Court finds that for this particular term expert testimony is not necessary. *Centricut, LLC v. Esab Group, Inc.*, 390 F.3d 1361, 1369 (Fed. Cir. 2004) ("In many patent cases expert testimony will not be necessary because the technology will be 'easily understandable without the need for expert explanatory testimony.'") (quoting *Union Carbide Corp. v. Am. Can Co.*, 724 F.2d 1567, 1573 (Fed. Cir. 1984))

c) Court's Construction

In light of the intrinsic evidence, the Court finds that claim 1 of the '272 Patent is invalid because the term **"most distal end of the implant"** is indefinite.

5. "driver"

Disputed Term	Plaintiff's Proposal	Defendants' Proposal
Term #1 "driver"	"a tool that is used for imparting forceful pressure on another object"	"device for inserting through a transfer of force or motion"

a) The Parties' Positions

The parties dispute whether the term "driver" requires imparting force. The parties agree that a driver can be used with force. Defendants, however, contend that a driver could be used for insertion through a transfer of motion without force. Plaintiff argues that the '907 Patent includes the terms "inserter" and "driver." (Dkt. No. 118 at 25). Plaintiff contends that Defendants' construction makes no distinction between inserting and driving. (*Id.*). Plaintiff argues that a driver requires something more than merely inserting through a force or motion. (*Id.*). According to Plaintiff, that is why the '907 Patent broadly claims "an inserter" in one independent claim, and "a driver" in another independent claim. (*Id.*).

Plaintiff further argues that Figure 7 illustrates a driver 30 used for driving an interference screw while Figures 12A and 12B illustrate an example of a driver "in which the plug is driven into the socket by impaction rather than being screwed into place." (*Id.* at 26) (citing '907 Patent at 4:4–6, 5:4–7). Plaintiff contends that each of these tools "drive" the anchor into place either by screwing or hammering. (Dkt. No. 118 at 26). Plaintiff further argues that its construction is also consistent with the plain and ordinary meaning of "driver," which is "[a] tool, such as a hammer, used to impart forceful pressure." (*Id.*) (citing Dkt. No. 111-11).

Defendants respond that the specification emphasizes that the "screwing" embodiment involves inserting the screw-type interface using a "transfer . . . of motion," and not "forceful

pressure." (Dkt. No. 122 at 41). Defendants contend that the patentees described the "handle rotation" as causing "screw threads" to "pull the screw into the hole." (*Id.*) (citing '907 Patent at 5:67–6:8, '272 Patent at Abstract ("screw ... advanced ... by turning")). According to Defendants, this involves the transfer of motion to the screw threads, and has nothing to do with the driver applying "forceful pressure." (Dkt. No. 122 at 41).

Defendants also argue that the dictionary cited by Plaintiff defined "driver" as "a machine part that transmits motion or power to another part." (*Id.*) (citing Dkt. Nos. 111-11, 122-17). Defendants contend that other dictionaries confirm Defendants' construction. (Dkt. No. 122 at 41) (citing Dkt. Nos. 122-13, 122-12). Defendants further contend that the '907 Patent specification and file history do not distinguish between "a driver" and "inserter." (Dkt. No. 122 at 42).

Plaintiff replies that the '907 Patent uses the terms "driver" and "inserter." (Dkt. No. 125 at 15). Plaintiff argues that one independent claim recites "a driver," and another claims "an inserter." (*Id.*). Plaintiff contends that Figure 7 of the '907 Patent shows a driver 30 for driving a screw, while Figures 12A and 12B show an example of a driver where the plug is driven by impaction. (*Id.*) (citing '907 Patent at 4:4–6, 5:4–7, Figures. 7, 12A, 12B). Plaintiff agrees that the specification does refer to the transfer of motion, but argues that the described transfer of motion requires the use of force. (Dkt. No. 125 at 15) ('907 Patent at 6:26–28, Figures 12A, 12B).

For the following reasons, the Court finds that the term **"driver"** should be construed to mean **"device for driving another object through a transfer of force."**

b) Analysis

The term "driver" appears in claims 16, 17, 18, 22, and 25 of the '907 Patent, and claims

1 and 6 of the ’272 Patent. The Court finds that the term is used consistently in the claims and is intended to have the same meaning in each claim. The Court further finds that the recited “driver” is a “device for driving another object through a transfer of force.” Every embodiment in the ’272 and ’907 Patents describe the driver as driving the interference device through a transfer of force. For example, the specification states that “FIG. 7 illustrates a driver 30 according to an embodiment of the present invention for *driving* the interference screw.” ’907 Patent at 4:4–5 (emphasis added). Similarly, the specification states that “FIGS. 12A and 12B illustrate an example of a driver usable with an interference plug in accordance with an embodiment of the present invention, in which the plug is *driven* into the socket by impaction rather than being screwed into place.” ’907 Patent at 5:4–7 (emphasis added).

Defendants contend that a driver may not require a transfer of force, and may only require a transfer of motion. (Dkt. No. 122 at 41). Defendants argue that that specification emphasizes that the “screwing” embodiment involves inserting the screw-type interface using a “transfer . . . of motion,” and not “forceful pressure.” (*Id.*). Defendants contend that the patentees described the “handle rotation” as causing “screw threads” to “pull the screw into the hole.” (*Id.*) (citing ’907 Patent at 5:67–6:8). Contrary to Defendants’ suggestion, turning a handle is not only a transfer of motion, but is also a transfer of force as indicated by the result of the screw thread pulling the screw into the hole. Indeed, the screw would not move without the force input from the driver. [5] To the extent that Defendants contend that the driver imparts only motion without force, the Court rejects this argument. Moreover, the Court finds that the dictionary definitions submitted by the parties are consistent with the intrinsic evidence as a driver imparting both force and motion.

[5] Moreover, the idea that one can “transfer . . . motion” to an object without applying a force is difficult to reconcile with Newton’s Second Law of Motion.

Regarding Plaintiff's claim differentiation argument, the Court agrees with Defendants that the claims use the term "driver" and "inserter" interchangeably. Therefore, the Court is not persuaded by Plaintiff's claim differentiation argument. However, the parties have agreed to a construction for the term "inserter," and the Court finds that there is not a dispute for this term. Moreover, the parties' agreed construction for "inserter" does not conflict with the Court's construction. Finally, in reaching its conclusion, the Court has considered the extrinsic evidence submitted by the parties, and given it its proper weight in light of the intrinsic evidence.

c) Court's Construction

The Court construes the term **"driver"** to mean **"device for driving another object through a transfer of force."**

6. "preloaded on the driver and disposed coaxially with the shaft"

Disputed Term	Plaintiff's Proposal	Defendants' Proposal
Term #6 "preloaded on the driver and disposed coaxially with the shaft"	"installed on the driver by the manufacturer such that the cannulated interference device is on a common axis with the shaft of the driver"	"installed on the driver prior to use such that the cannulated 'interference device' lies along a common axis with the driver's shaft"

a) The Parties' Positions

The parties dispute whether the term "preloaded" means that the interference device must be loaded on the driver by the manufacturer, as Plaintiff proposes, or if it refers to being installed prior to use, as Defendants propose. Plaintiff argues that Defendants' construction reads "pre" out of the word "preloaded," and instead provides a construction for "loaded." (Dkt. No. 118 at 29). Plaintiff contends that one of ordinary skill would be well aware that the term preloaded refers to being previously loaded or installed by the manufacturer, while the broader term "loaded" refers to something being installed at a different time. (*Id.*). Plaintiff argues that this is

precisely how the term is understood in the field of orthopedic medicine. (118 at 29) (citing Dkt. No. 113-2). Plaintiff contends that Defendants' marketing materials refer to preloading as installation by the manufacturer. (Dkt. No. 118 at 29) (citing Dkt. No. 112-10). Plaintiff further argues that other patents similarly refer to preloading as being done by the manufacturer. (Dkt. No. 118 at 29).

Defendants argue that Plaintiff's proposed "by the manufacturer" language contradicts the intrinsic record, and Plaintiff's own extrinsic evidence. (Dkt. No. 122 at 42). Defendants contend that the '272 Patent's abstract describes performing "preloading" among a variety of other preparatory steps that cannot be performed by the manufacturer. (*Id.*). Defendants also contend that the '272 Patent's parent describes how a hole is created, and "[n]ext," the "driver is pre-loaded with screw." (*Id.*) (citing 122-23 at 4:64–5:12). According to Defendants, the word "manufacturer" is never mentioned. (Dkt. No. 122 at 42). Defendants argue that Plaintiff relies on cherry-picked extrinsic evidence, and that even those materials are consistent with their construction (*Id.*).

Plaintiff contends that its construction is supported by the understanding of those in the field of orthopedic medicine. (Dkt. No. 125 at 16). Plaintiff argues that Defendants contend that the specification of the '272 Patent indicates that the driver is preloaded after a hole is created. Plaintiff further argues that "next" merely refers to the next step, and as part of that step, the Applicant is identifying the suture anchor pre-loaded by the manufacturer. (*Id.*). According to Plaintiff, this is also consistent with Figure 15. (*Id.*).

For the following reasons, the Court finds that the phrase **"preloaded on the driver and disposed coaxially with the shaft"** should be construed to mean **"installed on the driver prior to use such that the cannulated 'interference device' is on a common axis with the driver's**

shaft."

b) Analysis

The term "preloaded on the driver and disposed coaxially with the shaft" appears in claim 1 of the '272 Patent. The Court finds that the intrinsic evidence does not limit the term "preloaded" to being installed by the manufacturer. The specification does not include the word "manufacturer," but instead describes performing "preloading" as part of a variety of other preparatory steps that would not be performed by the manufacturer. *See* '272 at Abstract (*e.g.* creating a hole in the bone and passing suture through the graft). Similarly, the '272 specification describes how a hole is created and "driver 100 with a pre-loaded interference device 20 and with the outer shaft 17 in the retracted position is provided in the proximity of the bone socket 90." '272 Patent at 4:14–33.

Plaintiff contends that its construction is well supported by the extrinsic evidence, including Defendants' own marketing materials. (Dkt. No. 118 at 29). The Court finds that the extrinsic evidence does not warrant limiting the term as it used in the intrinsic evidence. Plaintiff also contends that its construction gives meaning to the prefix "pre", while Defendants only construe "loaded." (Dkt. No. 118 at 29). The Court disagrees. Like Plaintiff's construction, Defendants' construction requires that the interference device is installed on the driver prior to use. However, unlike Plaintiff's construction, Defendants' construction is not limited to the manufacturer performing the installation. As discussed, the specification is not so limiting. Moreover, Plaintiff's extrinsic evidence confirms that pre-loading an implement "is performed before the surgical operation, either by the manufacturer supplying the implement so pre-loaded, or by the hospital attendants." (Dkt. No. 113-5 at 9:34–38). Accordingly, the Court rejects Plaintiff's construction. Finally, in reaching its conclusion, the Court has considered the

remaining extrinsic evidence submitted by the parties, and given it its proper weight in light of the intrinsic evidence.

c) Court's Construction

The Court construes the phrase **"preloaded on the driver and disposed coaxially with the shaft"** to mean **"installed on the driver prior to use such that the cannulated 'interference device' is on a common axis with the driver's shaft."**

D. The Interference Screw Patents

The parties' dispute focuses on the meaning and scope of twelve terms/phrases in the Suture Anchor Patents.

1. "elongated threaded body," "tip"

Disputed Term	Plaintiff's Proposal	Defendants' Proposal
Term #13 "elongated threaded body"	Plain and ordinary meaning. Alternatively, "a body having threads extending along its length"	"elongated threaded portion of the screw extending from the screw's proximal end and terminating before the tip"
Term #19 "tip" '216 Patent - 1, 4, 5, 6, 7 '986 Patent - 5	Plain and ordinary meaning. Alternatively, "the portion of the distal end of the screw that is pointed, projected or rounded"	"portion of the screw that starts at the screw's distal end, increases in diameter proximally, and terminates where the taper of the screw changes to a lesser taper"
Term #19 "tip" '977 Patent - 4	Plain and ordinary meaning. Alternatively, "the portion of the distal end of the screw that is pointed, projected or rounded"	"portion of the screw that starts at the screw's distal end, increases in diameter proximally, and terminates where the threads begin"

a) The Parties' Positions

The parties dispute whether the intrinsic evidence indicates that the terms "elongated threaded body" and "tip" should be construed to indicate that they are different portions of the interference screw. The parties also dispute whether the "elongated threaded body" must

terminate before the tip. The parties further dispute whether the recited "tip" should be construed differently across the patents. Plaintiff argues that the threads do not have to terminate before the tip. (Dkt. No. 118 at 36). Plaintiff contends that Defendants improperly import various terms into the construction (*e.g.*, "proximal end," "tip," etc.) of the term "elongated threaded body." (*Id.*). Plaintiff argues that the specification and claims expressly contemplate that the "elongated threaded body" may extend from the proximal end to the distal end of the screw. (*Id.* at 37) (citing '216 Patent at claim 1; '977 Patent at 2:62–64).

Plaintiff further argues that Defendants' construction would exclude the embodiment illustrated in Figure 1 by eliminating the disclosed 35 mm length elongated threaded body. (Dkt. No. 118 at 37) (citing '977 Patent at Figure 1; Dkt 115-1). Plaintiff contends that the proximal end 20 and distal end 25 of the threaded elongated body describes the full length of the screw, and not the portion of the screw that excludes the tip. (Dkt. No. 118 at 37). Plaintiff further argues that the doctrine of claim differentiation indicates that there is no requirement that the threads must terminate before the tip. (*Id.*) (citing '977 Patent at claims 1, 4, 5).

Regarding the term "tip," Plaintiff contends that the plain and ordinary meaning should apply. (Dkt. No. 118 at 42). In the alternative, Plaintiff argues that the recited "tip" is the portion of the distal end of the screw that is pointed, projected, or rounded. (*Id.*) (citing '977 Patent at 2:7–9, 3:16–18). Plaintiff also argues that one dictionary defines tip as "the pointed or rounded end or extremity of something." (Dkt. No. 118 at 43) (citing Dkt. No. 115-2).

Plaintiff further argues that Defendants improperly seek to have the same claim term construed differently among the patents. (Dkt. No. 118 at 43). Regarding Defendants' first proposed construction, Plaintiff argues that there is nothing about the term "tip" that requires that it start at the distal end and terminate where the taper changes. (*Id.*) (citing '977 Patent at claim

4). According to Plaintiff, construing "tip" as Defendants propose improperly renders the language following tip in claim 4 meaningless. (Dkt. No. 118 at 43). Plaintiff further argues that under the doctrine of claim differentiation, claim 1 must be broader than a screw with a tip defined by a second taper. (*Id.*). Plaintiff also argues that dependent claim 5 of the '977 Patent recites "wherein the tip at the distal end of the screw is smooth and unthreaded." (*Id.*). Plaintiff contends that the "tip" can therefore either be threaded or unthreaded, and a construction requiring the tip to begin where the threads terminate cannot be correct. (*Id.* at 44).

Regarding Defendants' second construction, Plaintiff argues that the specification recites that "[s]crew 10 is provided in a preferred length of 35 mm., with threads 16 extending substantially from proximal end 20 to distal end 25." (*Id.*) (citing '977 Patent at 2:62–65). Plaintiff contends that this preferred embodiment would conflict with Defendants' construction. (Dkt. No. 118 at 44).

Defendants respond that the claim language makes clear that the "body" of the screw is not synonymous with the "screw" as a whole. (Dkt. No. 122 at 43). Defendants contend that claim 1 of the '216 Patent requires a screw comprising a "body" and a "tip" having "a taper which is greater than" the taper of the body. (*Id.*). According to Defendants, the separate recitation of "body" and "tip" requires that they be distinct. (*Id.*). Defendants further argue that the tip could not have a "greater" taper than the body if the tip were itself part of the body. (*Id.*). Defendants also argue that the '986 and '977 Patent claims also confirm that the body and tip are separate because "the screw" (not the body) "is provided with a tip." (*Id.*) (citing '986 Patent at claim 5; '977 Patent at claim 4). According to Defendants, the structure of all the claims mandates that the body and the tip be distinct parts of the screw, such that the body ends before the tip begins. (*Id.*).

Regarding Plaintiff's argument that Defendants' construction would exclude a preferred embodiment, Defendants argue that the specification consistently refers to a 35 mm screw, while claim 1 requires a 35 mm body. (*Id.*). Defendants further argue that the shared interference screw specification teaches that "elongated main body 15" has a more gradual taper than "initial portion 45." (*Id.* at 44) (citing '216 Patent at 3:11–18). Defendants contend that the intrinsic evidence requires the "tip" in the '216 and '986 Patents claims to be the portion of the screw that starts at the screw's distal end, increases in diameter proximally, and terminates where the taper of the screw changes to a lesser taper. (Dkt. No. 122 at 44).

Regarding the '977 Patent, Defendants contend that the structure of the claims dictates a different construction. (*Id.*). Defendants argue that claim 1 of the '977 Patent requires a "threaded body." (*Id.*). Defendants further argue that the claim does not recite a "tip," but claims 4 and 5 do recite a "tip." (*Id.*). According to Defendants, the construction of "body" in claim 1 must account for the "tip" inferentially since the body is by definition the portion of the screw other than the tip. (*Id.*). Defendants argue that claim 5 recites that the tip is "unthreaded." (*Id.*). Defendants contend that this is directly contrary to claim 1 of the '216 Patent, which recites the tip as "threaded." (*Id.*). Defendants further argue that because the "body" must have the same construction in claims 1 and 5, and must account for the "tip" in both claims, it follows that the "tip" must start at the screw's distal end and terminate where the threads begin. (*Id.*).

Regarding Plaintiff's claim differentiation argument with respect to dependent claim 5 of the '977 Patent, Defendants contend that claim 5 introduces two elements not present in the claims from which it depends: (1) the tip is unthreaded, and (2) the tip is smooth. (*Id.*). Defendants argue that under their construction the "tip" must be unthreaded (to respect both claims 1 and 5) but need not be smooth. (*Id.*). According to Defendants, this means that claim

differentiation does not apply. (*Id.*).

Plaintiff replies that its constructions are supported by the specification and the doctrine of claim differentiation. (Dkt. No. 125 at 17). Plaintiff contends that Defendants' constructions exclude a preferred embodiment where the body extends over the length of the screw. (*Id.*). Plaintiff further contends that Defendants are trying to read the specification into the claims. (*Id.* at 18).

For the following reasons, the Court finds that the terms **"elongated threaded body"** and **"tip"** should be give their plain and ordinary meaning.

b) Analysis

The term "elongated threaded body" appears in claims 1 and 2 of the '216 Patent, claims 1 and 5 of the '986 Patent, and claims 1, 4, and 6 of the '977 Patent. The Court finds that the term is used consistently in the claims and is intended to have the same meaning in each claim. The term "tip" appears in claims 1, 4, 5, 6, and 7 of the '216 Patent, claim 5 of the '986 Patent, and claim 4 of the '977 Patent. The Court finds that the term is used consistently in the claims and is intended to have the same meaning in each claim. The Court further finds that the "elongated threaded body" and "tip" are different portions of the interference screw. The claim language states that the threaded body has one taper, and the tip has a second taper. For example, claim 1 of the '216 Patent recites "a tip disposed of the distal end of the elongated body, the tip being threaded and having a taper which is greater than the taper of the elongated threaded body." Likewise, claim 5 of the '986 Patent recites that "the distal end of the screw is provided with a tip having a second taper which is greater than the taper of the elongated threaded body of the screw"

The specification further indicates the differences between the tip and the body.

Specifically, the specification states the following:

> Referring to FIGS. 1 and 3, screw 10 is tapered. The taper is a complex taper with an initial portion 45 at an angle of about 27° with respect to the longitudinal axis 50, an intermediate portion 55 at an angle of about 12° angle with respect to axis 50, and an elongated main body 15 with a more gradual taper. The relatively pointed distal portion 45 forms a nose that provides for easy insertion of the screw 10 into a bone tunnel.

'216 Patent at 3:11–18. As indicated, the specification teaches that "elongated main body 15" has a more gradual taper than "initial portion 45." The specification further states that "[p]referably, the distal end of the screw, the end closest to the joint, has a smooth, rounded tip profile so as to minimize abrasion with the graft." '977 Patent at 2:7–9. The specification also states that "screw 10 is provided in a preferred length of 35 mm., with threads 16 extending substantially from proximal end 20 to distal end 25." '977 Patent at 2:62–64. Given that the structure of the claims indicate that the "body" and "tip" are separate, and in view of the specification's disclosure of different features for these claimed elements, the Court finds that that the "elongated threaded body" and "tip" are different portions of the interference screw.

Plaintiff contends that the specification refers to the threaded body that extends along the entire length of the screw. (Dkt. No. 118 at 37). Plaintiff argues that Defendants' constructions would exclude a preferred embodiment because it would eliminate the disclosed 35 mm length elongated threaded body. (*Id.*). First, the Court is not adopting Defendants' constructions. Second, the specification states that "screw 10 is provided in a preferred length of 35 mm., with threads 16 extending substantially from proximal end 20 to distal end 25." '977 at 2:62–64. The word "substantially" indicates that the thread is not required to extend entirely along the screw's preferred length of 35mm. It only indicates that in the preferred embodiment, the thread extends for a substantial amount of the screw's length.

However, this does not mean that the recited "tip" cannot be threaded, as Defendants

propose. Instead, the claim language determines what features the tip may or may not have. For example, dependent claim 5 of the '977 Patent (which depends from claim 4 and claim 1) recites "wherein the tip at the distal end of the screw is smooth and unthreaded." This indicates that independent claim 1 may include a tip that is threaded. Defendants argue that claim differentiation does not apply because claim 5 introduces two elements not present in the claim 1. (Dkt. No. 122 at 44). The Court is not persuaded that there is a significant difference between unthreaded and smooth in the context of the intrinsic evidence. Thus, the Court does not adopt Defendants' construction for "elongated threaded body" because it requires that the threads must terminate before the tip.

Defendants also argue that the term "tip" should be construed differently across the patents. The Court first notes that the patents share a common specification. When multiple "patents all derive from the same parent application and share many common terms, [courts] must interpret the claims consistently across all asserted patents." *NTP, Inc. v. Research In Motion, Ltd.*, 418 F.3d 1282, 1293 (Fed. Cir. 2005); *see also Omega Eng'g. Inc. v. Raytek Corp.*, 334 F.3d 1314, 1334 (Fed. Cir. 2003) (The court will "presume, unless otherwise compelled, that the same claim term in the same patent or related patents carries the same construed meaning.").

Defendants have not provided a persuasive reason why the term "tip" should be construed differently across the patents. Instead, Defendants' constructions highlight that they are reading into the claims features of the tip that are not consistent with the intrinsic evidence. The claims explicitly recite when the tip must have a taper that differs from the elongated threaded body. *See e.g.*, '216 Patent at claim 1, '986 Patent at claim 5, '977 Patent at claim 4. The claims also indicate when the tip may be threaded or unthreaded. *See e.g.*, '977 Patent at claim 5. Accordingly, the Court rejects Defendants' construction and finds that the term "tip"

should be construed the same across the patents. Finally, in reaching its conclusion, the Court has considered the extrinsic evidence submitted by the parties, and given it its proper weight in light of the intrinsic evidence.

c) Court's Construction

The terms **"elongated threaded body"** and **"tip"** will be given their plain and ordinary meaning.

2. "taper," "tapers"

Disputed Term	Plaintiff's Proposal	Defendants' Proposal
Term #11 "taper"	"gradual decrease in width over the length of an object"	"a gradual decrease in width over length"
Term #11 "tapers"	"gradually decreasing in width over the length of an object"	"gradually decreasing in width over length"

a) The Parties' Positions

The parties dispute whether the "taper" must extend over "the length of an object," as Plaintiff proposes, or whether it can extend over any length of an object, as Defendants propose. Plaintiff argues that a person of ordinary skill would understand that the "taper" of the present invention is a taper over the length of an object, not just any portion of the length. (Dkt. No. 118 at 34). Plaintiff contends that during prosecution of the '977 Patent, the PTO rejected claims 5–8 as conflicting with the definition of taper. (*Id.*) (citing Dkt. No. 114-4). Plaintiff argues that the examiner noted that "[t]aper is defined as 'a gradual decrease in thickness or width of an elongated object.'" (*Id.*). Plaintiff further contends that the patentees amended the claims to conform to the examiner's definition of "taper," and those claims were allowed. (Dkt. No. 118 at 34) (citing Dkt. Nos. 114-5, 114-7).

Plaintiff further argues that the definition of "taper" can be understood by looking at the

specification. (Dkt. No. 118 at 3) (citing '977 Patent at 1:48–56). Plaintiff contends that the specification recites a taper extending over the length of an object, not just "a length." (Dkt. No. 118 at 34) (citing '977 Patent at 2:4–7, 3:11–40, Figures 1-4, 6). According to Plaintiff, one of ordinary skill would understand that the "taper," whether it be a single taper or multiple tapers, would extend over the length of an object. (Dkt. No. 118 at 35). Finally, Plaintiff argues that one dictionary definitions of "taper" is "gradual diminution of width or thickness in an elongated object." (*Id.*) (citing Dkt. No. 108-6).

Defendants respond that the claims themselves rule out a taper over only an "infinitesimal portion," because the claims require the taper to "extend[] along substantially the entire length of the elongated threaded body." (Dkt. No. 122 at 45). Defendants further argue that Plaintiff's construction implies that a taper must exist over the entire length of an object. (*Id.*). Defendants contend that this is contrary to claim 1 of the '216 Patent, which requires two tapers: one "extending along substantially the entire length of the elongated body," and a second on the "tip." (*Id.*). Defendants also argue that placing Plaintiff's construction into the claim renders it nonsensical. (*Id.*).

Plaintiff replies that the specification recites that "the taper of the screw extend[s] along substantially the entire length of the screw." (Dkt. No. 125 at 17) (citing '977 Patent at 1:48–56). Plaintiff also argues that during prosecution the examiner defined "taper" in a similar manner. (Dkt. No. 125 at 17) (citing Dkt. No. 114-6). Plaintiff contends that the dictionary definition of "taper" is "gradual diminution of width or thickness in an elongated object." (Dkt. No. 125 at 17) (citing Dkt. No. 108-6). Finally, Plaintiff argues that its construction contemplates that a "taper" extends along "the length of an object," which depends on whether that length is identified as (1) substantially the entire length, (2) the entire length, or (3) any other described length of

something. (Dkt. No. 125 at 17).

For the following reasons, the Court finds that the term **"taper"** should be construed to mean **"a gradual decrease in width,"** and that the term **"tapers"** should be construed to mean **"gradually decreasing the width."**

b) Analysis

The term "taper" appears in claim 1 and 2 of the '216 Patent, claim 5 of the '986 Patent, and claims 1, 4, and 6 of the '977 Patent. The Court finds that the term is used consistently in the claims and is intended to have the same meaning in each claim. The term "tapers" appears in claim 4, 5, 6, and 7 of the '216 Patent. The Court finds that the term is used consistently in the claims and is intended to have the same meaning in each claim. The Court further finds that the intrinsic evidence indicates that a person of ordinary skill in the art would understand taper to mean "a gradual decrease in width."

During the prosecution of the '977 Patent, the examiner stated that "[t]aper is defined as 'a gradual decrease in thickness or width of an elongated object.'" (Dkt. No. 114-6 at 4). Similarly, the specification states that one embodiment includes "a complex taper with an initial portion 45 at an angle of about 27° with respect to the longitudinal axis 50, an intermediate portion 55 at an angle of about 12° angle with respect to axis 50, and an elongated main body 15 with a more gradual taper." '216 Patent at 3:12–16. Likewise, claims 4–7 of the '216 Patent recite that the screw tapers from a large diameter to a smaller diameter. Thus, the intrinsic evidence indicates that the recited "taper" means "a gradual decrease in width," and that "tapers" means "gradually decreasing the width."

The extrinsic evidence is consistent with the intrinsic evidence, and defines "taper" as "gradual diminution of width or thickness in an elongated object." (Dkt. No. 108-6 at 12).

Accordingly, a person of ordinary skill in the art would understand that the recited taper is "a gradual decrease in width."

c) Court's Construction

The Court construes the term **"taper"** to mean **"a gradual decrease in width,"** and the term **"tapers"** to mean **"gradually decreasing the width."**

3. "a width dimensioned to provide an interference fit in the tibial tunnel," "the proximal end of the screw being configured to provide an interference fit of up to 1.5 mm. in a bone tunnel"

Disputed Term	Plaintiff's Proposal	Defendants' Proposal
Term #10 "a width dimensioned to provide an interference fit in the tibial tunnel"	"the screw has a diameter configured to be larger than a diameter of the tibial bone tunnel so as to fasten the screw to the tibial tunnel by wedging"	"a diameter that is larger than the diameter of the tibial tunnel by an amount"
Term #10 "the proximal end of the screw being configured to provide an interference fit of up to 1.5 mm. in a bone tunnel"	"the proximal end of the screw being configured to provide a diameter that is larger than the diameter of the bone tunnel by up to 1.5 mm. so as to fasten the screw to the bone tunnel by wedging"	"the proximal end of the screw being configured to provide a diameter that is larger than the diameter of the bone tunnel by up to 1.5 mm."

a) The Parties' Positions

The parties dispute whether the phrase "so as to fasten the screw to the tibial tunnel by wedging" should be included in the constructions for the disputed phrases, as Plaintiff proposes. Plaintiff argues that the construction for the disputed phrase should include a construction for the term "interference fit." (Dkt. No. 118 at 32). Plaintiff further argues that Defendants seek to exclude both the term and its construction entirely from the claim by omitting the phrase "[dimensioned/configured] to provide an interference fit" from its construction. (*Id.*). Plaintiff argues that its construction is also consistent with the specification. (*Id.* at 33) (citing '986 Patent

at 1:34–41). Plaintiff contends that the "interference fit" is defined by the interaction between the screw and the hole, not merely their relative sizing. (Dkt. No. 118 at 33). Plaintiff argues that the specification recites that there is "a wedge effect that allows a large-diameter screw to be used in relation to the bone tunnel and graft size." (*Id.*) (citing '977 Patent at 3:33–35). Plaintiff contends that Defendants' construction is untenable because it ignores both the claim language reciting "interference fit" and the specification itself. (Dkt. No. 118 at 33) (citing '986 Patent at 3:29–38).

Defendants respond that the difference between the parties' constructions are that Plaintiff seeks to add the phrase "so as to fasten the screw to the tibial tunnel by wedging." (Dkt. No. 122 at 46). Defendants argue that the patentee should be held to the definition it provided in the patent when it acted as its own lexicographer. (*Id.*) ('977 Patent at 3:33–37).

Plaintiff replies that Defendants cherry pick a portion of the specification that provides an incomplete analysis of "interference fit." (Dkt. No. 125 at 16). Plaintiff argues that a relevant portion of the specification defines "interference fit" consistent with its proposed construction. (*Id.*) (citing '986 Patent at 1:34–41). According to Plaintiff, the term "interference fit" is defined by the interaction of the screw and the hole, not merely the relative sizing. (Dkt. No. 125 at 17) (citing '977 Patent at 3:33–35).

For the following reasons, the Court finds that the phrase **"a width dimensioned to provide an interference fit in the tibial tunnel"** should be construed to mean **"a diameter configured to be larger than a diameter of the tibial bone tunnel,"** and that the phrase **"the proximal end of the screw being configured to provide an interference fit of up to 1.5 mm. in a bone tunnel"** should be construed to mean **"the proximal end of the screw being configured to provide a diameter that is larger than the diameter of the bone tunnel by up**

to 1.5 mm."

b) Analysis

The phrase "a width dimensioned to provide an interference fit in the tibial tunnel" appears in claim 1 of the '986 Patent. The phrase "the proximal end of the screw being configured to provide an interference fit of up to 1.5 mm. in a bone tunnel" appears in claim 1 of the '216 Patent. The parties appear to agree that an "interference fit" requires a diameter configured to be larger than a diameter of the tibial bone tunnel. Plaintiff's construction includes the additional phrase "so as to fasten the screw to the tibial tunnel by wedging." The Court finds that Plaintiff's additional language is unnecessary.

Plaintiff is correct that the specification states that "[a]s screw 10 threadingly advances through a bone tunnel, the screw dilates bone outwardly around the bone tunnel an[d] creates an interference fit therewith." '977 Patent at 3:27–30. Plaintiff is also correct that the specification further states that "[t]he taper also causes a wedge effect that allows a large-diameter screw to be used in relation to the bone tunnel and graft size." '977 at 3:31–33. However, as the specification indicates, the interference fit is created because the screw diameter is larger than the diameter of the bone tunnel. For example, the specification states that "[t]he present interference screw promotes about a 1.5 mm interference fit; i.e., the diameter of the proximal end 20 of the screw l5 is 1.5 mm larger than the diameter of the bone tunnel." '977 at 3:33–36. Indeed, a number of the claims recite either a diameter or the amount of diametrical interference. *See, e.g.*, '216 Patent at claims 1, 4, 5, 6, and 7. Thus, Plaintiff's proposed language is an intended result of the difference in diameters, and is not a limitation that should be read into the claims. Accordingly, the Court does not adopt Plaintiff's construction.

c) Court's Construction

The Court construes the phrase **"a width dimensioned to provide an interference fit in the tibial tunnel"** to mean **"a diameter configured to be larger than a diameter of the tibial bone tunnel,"** and construes the phrase **"the proximal end of the screw being configured to provide an interference fit of up to 1.5 mm. in a bone tunnel"** to mean **"the proximal end of the screw being configured to provide a diameter that is larger than the diameter of the bone tunnel by up to 1.5 mm."**

4. "extending along substantially the entire length of the screw from said proximal end to said distal end"

Disputed Term	Plaintiff's Proposal	Defendants' Proposal
Term #17 "extending along substantially the entire length of the screw from said proximal end to said distal end"	Plain and ordinary meaning. **Alternatively**, "extending the entire length, or very close to the entire length, of the screw, from the proximal end to the distal end"	"extending from the proximal end of the body to the distal end of the body"

a) The Parties' Positions

The parties dispute whether the phrase requires the threads to extend from the proximal end of the body to the distal of the body, as Defendants propose, or if the phrase requires the threads to extend the entire length, or close to the entire length of the screw, as Plaintiff proposes. Plaintiff argues that the Defendants' construction ignores the entire phrase "substantially the entire length of the screw." (Dkt. No. 118 at 41). Plaintiff contends that the phrase is significant because it means that the referenced object need not extend over the entire length, only over "substantially" the entire length. (*Id.*). Plaintiff further argues that other courts have either construed "substantially" consistent with its construction or identified its construction as an ordinary meaning of the term. (*Id.*). Plaintiff also contends that Defendants' construction improperly tries to read the description from the specification into the claims. (*Id.*).

Defendants respond that it is not disputed that the antecedent basis for "said proximal end" is the proximal end of the body, and the antecedent basis for "said distal end" is the distal end of the body. (Dkt. No. 122 at 46). Defendants argue that its construction is based on the unambiguous structure of the claims, which dictates that the "body" is but a portion of the "screw." (*Id.*). According to Defendants, the claim language requires that the threads extend from one end of the body to the other end of the body, thus also extending along substantially the entire length of the screw. (*Id.*). Defendants further contend that their construction accounts for all of the claim language. (*Id.*). Defendants argue that Plaintiff's construction conflates "body" and "screw," and vitiates the requirement that the threads extend from the proximal end of the body to the distal end of the body. (*Id.*).

Plaintiff replies that Defendants' construction reads out a substantial portion of the claim term. (Dkt. No. 125 at 19). Plaintiff argues that if Defendants' construction were correct, the term "along substantially the entire length of the screw" would be meaningless. (*Id.*). According to Plaintiff, Defendants' construction nearly tracks the limitation word for word with the above referenced portion excluded. (*Id.*).

For the following reasons, the Court finds that the phrase **"extending along substantially the entire length of the screw from said proximal end to said distal end"** should be construed to mean **"extending from the proximal end of the elongated threaded body to the distal end of the elongated threaded body."**

b) Analysis

The phrase "extending along substantially the entire length of the screw from said proximal end to said distal end" appears in claims 1 of the '986 Patent, and claims 1 and 6 of the '977 Patent. The Court finds that the phrase is used consistently in the claims and is intended to

have the same meaning in each claim. The Court further finds finding that the phrase requires the threads to extend from the proximal end of the body to the distal of the body. The claim language indicates that the "body" of the screw is not synonymous with the "screw" as a whole. Importantly, the disputed phrase is preceded by the phrase that the elongated threaded body has "a proximal end, a distal end, a length." *See* '986 Patent at claim 1; '977 Patent at claims 1, 6. Therefore, the antecedent basis for "said proximal end" is the proximal end of the body, and the antecedent for "said distal end" is the distal end of the body. In other words, the claim language requires that the threads extend from one end of the body to the other end of the body.

Plaintiff contends that Defendants' construction makes the phrase "along substantially the entire length of the screw" meaningless. The Court disagrees. Defendants' construction accounts for all of the claim language by requiring the threads to extend from one end of the elongated threaded body to the other end of the elongated threaded body. This means that the threads will also extend along substantially the entire length of the screw. Plaintiff's construction fails to recognize the distinction between the "elongated threaded body" and the "screw." Instead, Plaintiff's construction reads out the requirement that the threads extend from the proximal end of the elongated threaded body to the distal end of the elongated threaded body. Moreover, the "substantial" language does not exclude the tip from being threaded because the tip is part of the screw.

c) Court's Construction

The Court construes the phrase **"extending along substantially the entire length of the screw from said proximal end to said distal end"** to mean **"extending from the proximal end of the elongated threaded body to the distal end of the elongated threaded body."**

5. "a tip having a second taper which is greater than the taper of the elongated threaded body"

Disputed Term	Plaintiff's Proposal	Defendants' Proposal
Term #12 "a tip having a second taper which is greater than the taper of the elongated threaded body"	Plain and ordinary meaning except "taper," which should be construed as gradually decreasing in width.	Indefinite.

a) The Parties' Positions

The parties dispute whether the phrase is indefinite because there is no antecedent basis for the term "the taper of the elongated threaded body" in claim 5 of the '986 Patent. Plaintiff contends that the term consists of plain English words that have not been redefined by the patentee. (Dkt. No. 118 at 35). Plaintiff argues that Defendants contend that the term is indefinite because there is no antecedent basis for the term "the taper" in the independent claim. (*Id.*). Plaintiff contends that one of ordinary skill in the art would have understood "the taper" to mean "a taper." (*Id.*). Plaintiff further argues that the failure to provide explicit antecedent basis for terms does not necessarily render a claim term indefinite as long as the scope of a claim would be reasonably ascertainable by those skilled in the art. (*Id.*) (citing *Nautilus*, 134 S.Ct. at 2124).

According to Plaintiff, one of ordinary skill looking at the specification would be able to ascertain what is meant by "the taper of the elongated threaded body," as well as the second taper. (*Id.*). Plaintiff argues that the specification describes the tapers with great detail and the provisional application provides further context by labeling exemplary measurements on the drawings. (*Id.* at 36). Plaintiff also argues that one of ordinary skill would understand the metes and bounds of this claim limitation based on the prosecution history. (*Id.*). Plaintiff contends that this antecedent basis should not be fatal to the claim, and the Court could even take judicial notice to correct the typographical error. (*Id.*).

Defendants respond that Plaintiff concedes that there is no antecedent basis for the term "the taper of the elongated threaded body" in claim 5 of the '986 Patent. (Dkt. No. 122 at 46). Defendants contend that Plaintiff argues that "the taper" is a typographical error and should be "a taper." (*Id.* at 47). According to Defendants, Plaintiff's argument is foreclosed by the '986 Patent's prosecution. (*Id.*). Defendants argue that the patentee affirmatively removed the requirement of a "taper" from the independent claims, and also removed the word "Tapered" from the patent's title to "better reflect" the invention. (*Id.*) (citing Dkt. No. 114-10).

For the following reasons, the Court finds that the phrase **"a tip having a second taper which is greater than the taper of the elongated threaded body"** should be construed to mean **"a tip having a second taper which is greater than a taper of the elongated threaded body."**

b) Analysis

The term "a tip having a second taper which is greater than the taper of the elongated threaded body" appears in claim 5 the '986 Patent. The Court finds that "the taper" is a typographical error that should be corrected to "a taper." A district court can correct a patent only if: (1) the correction is not subject to reasonable debate based on consideration of the claim language and the specification; and (2) the prosecution history does not suggest a different interpretation of the claims. *Novo Indus., L.P. v. Micro Molds Corp.*, 350 F.3d 1348, 1357 (Fed. Cir. 2003).

In this instance, the Court finds that when the claim amendments are considered in the context of the claim language, specification, and prosecution history, the clerical error made is not subject to reasonable debate. Originally filed claim 9 recited "a taper."[6] (Dkt. No. 114-10 at 5). The patentee removed the limitation of "a taper" from claim 9, but did not correct the

[6] Claim 9 in the application eventually became claim 1 of the '986 Patent.

antecedent basis on originally filed claim 13, which eventually issued as claim 5. (*Id.* at 6). Accordingly, the correction is not subject to reasonable debate based on consideration of the claim language and the prosecution history.

Likewise, the specification indicates that the correction is warranted. The specification describes the tapers with great detail and the provisional application provides further context by labeling exemplary measurements on the drawings. '977 Patent at 3:11–18, Figures 1 and 3; (Dkt. No. 115-1 at 5). When the claim language, specification, and prosecution history are considered and properly analyzed, the obvious clerical error (and the correction made by the Court) is not subject to reasonable debate. *CBT Flint Partners, LLC v. Return Path, Inc.*, 654 F.3d 1353, 1358 (Fed. Cir. 2011) ("It is well-settled law that, in a patent infringement suit, a district court may correct an obvious error in a patent claim.").

Defendants contend that Plaintiff's argument is foreclosed by the '986 Patent's prosecution. (Dkt. No. 122 at 47). According to Defendants, the patentee affirmatively removed the requirement of a "taper" from the independent claims and removed the word "Tapered" from the Patent's title. Although Defendants accurately state the amendment, Defendants' argument fails to consider that the specification describes the tapers with great detail and that the provisional application provides further context by labeling exemplary measurements on the drawings. The Court finds that, with the clerical error corrected, the phrase "a tip having a second taper which is greater than [a] taper of the elongated threaded body" does not lack antecedent basis in claim 5 of the '986 Patent. Furthermore, the Court finds that a person of ordinary skill looking at the specification and prosecution history would be informed, with reasonably certainty, about the scope of the phrase "the taper of the elongated threaded body." *Nautilus*, 134 S.Ct. at 2124.

c) Court's Construction

The Court construes the phrase **"a tip having a second taper which is greater than the taper of the elongated threaded body"** to mean **"a tip having a second taper which is greater than a taper of the elongated threaded body."**

6. "slots"

Disputed Term	Plaintiff's Proposal	Defendants' Proposal
Term #16 "slots"	Plain and ordinary meaning. **Alternatively,** "a groove extending from a face of the drive socket"	"grooves"

a) The Parties' Positions

The parties agree that the recited "slots" may be construed as "grooves." The parties dispute whether the construction should further include "a groove extending from a face of the drive socket," as Plaintiff proposes. (Dkt. No. 118 at 40). Plaintiff argues that Defendants' construction for the term "Delta drive" concedes that slots are grooves that are located on the faces of the drive socket. (*Id.*). Plaintiff contends that this claim term should be construed to require that the "slots" be located on a face of the drive socket. (*Id.*).

Defendants respond that the parties agree that "grooves" conveys the claims' meaning, but that Plaintiff wishes to add additional limitations. (Dkt. No. 118 at 47). Defendants argue that their construction for "Delta drive" reflects how the specification discusses the Delta drive socket, not other forms of drive sockets. (*Id.*). Defendants further argue that the term "face of the drive socket" would only confuse the jury, and that no additional limitations should be imported. (*Id.*).

For the following reasons, the Court finds that the term **"slots"** should be given its plain and ordinary meaning.

b) Analysis

The term "slots" appears in claim 1 of the '216 Patent, claims 1 and 4 of the '986 Patent, and claim 3 of the '977 Patent. The Court finds that the term is used consistently in the claims and is intended to have the same meaning in each claim. The Court further finds that the term "slots" is unambiguous, is easily understandable by a jury, and should be given its plain and ordinary meaning. The specification discloses an embodiment of a socket that "is provided, at its outer end, with radially-extending slots 40 in every other annular face of socket 35." '986 Patent at 3:3–5. Similarly, the claims recite that "the drive socket has radially-extending slots for receiving a driver." '216 Patent at claim 1, '986 Patent at claims 1and 4, '977 Patent at claim 3. Thus, within the context of the intrinsic evidence, the term "slots" is not confusing and is easily understandable by a jury. Moreover, the term "grooves" does not appear in the specification. The Court is not persuaded that it should redraft the claims to replace a term that is in the specification with a term that is not in the specification, particularly when doing so would not provide any additional clarity.

Regarding Plaintiff's alternative construction, the Court finds that it is unnecessary and unwarranted. As discussed, the claims recite that the "the drive socket has radially-extending slots for receiving a driver." '216 Patent at claim 1, '986 Patent at claims 1and 4, '977 Patent at claim 3. Plaintiff's construction is redundant of this claim language and could be confusing to a jury. Given that Plaintiff's alternative construction fails to provide any clarity to the term "slots," the Court does not adopt Plaintiff's alternative construction.

c) Court's Construction

The term **"slots"** will be given its plain and ordinary meaning.

7. "the drive socket has radially- extending slots for receiving a driver having three radially- extending protusions [sic] corresponding to the slots"

Disputed Term	Plaintiff's Proposal	Defendants' Proposal
Term #15 "the drive socket has radially- extending slots for receiving a driver having three radially- extending protusions [sic] corresponding to the slots"	Plain and ordinary meaning. Alternatively, "an opening for receiving a driver, having slots that extend radially and arranged to receive three protrusions extending from faces of the driver"	"the drive socket has exactly three 'slots' that extend outwardly from a center axis to receive three radially-extending protrusions"

a) The Parties' Positions

The parties' dispute whether a drive socket is limited to exactly three radially extending slots, as Defendants propose. Plaintiff argues that the courts have rejected the notion that claims like the one in dispute should be limited to exactly three radially extending slots. (Dkt. No. 118 at 38) (citing *Kroy IP Holdings, LLC v. Safeway, Inc.*, 2014 U.S. Dist. LEXIS 75729, *25 (E.D. Tex. June 4, 2014); *Gillette Co. v. Energizer Holdings, Inc.*, 405 F.3d 1367, 1368-69 (Fed. Cir. 2005)). Plaintiff contends that when the preamble of the claim uses the language "comprising," and where there is no indication in the specification that the claim should be limited to three protrusions, the claim should not be so limited. (Dkt. No. 118 at 38).

Defendants respond that Plaintiff relies on "comprising" in the preamble to argue that "three" means "three or more." (Dkt. No. 122 at 47). According to Defendants, "having" means "consisting of only." (*Id.*). Defendants further argue that the specification only discloses three slots. (*Id.* at 48). Defendants contend that the patentee added the "three radially-extending protrusions" language to overcome a rejection based on hex-shaped socket prior art. (*Id.*) (citing Dkt. No. 114-5). Defendants argue that the patentee then abandoned this product claim in favor of the '977 Patent's method claims, but re-filed the product claims with the "three … protrusions" language. (Dkt. No. 122 at 48) (citing Dkt. Nos. 114-4, 114-8). According to

Defendants, the patentee narrowed its claims to overcome prior art and Plaintiff should not be allowed to recapture what was surrendered. (Dkt. No. 122 at 48).

Plaintiff replies that its construction is the correct one because the preamble of the claim uses the open-ended term "comprising" and because there is nothing in the specification that indicates the claimed invention should be limited to only three radially extending slots. (Dkt. No. 125 at 18). Plaintiff contends that Defendants incorrectly argue that a claim that includes the terms "having" and "comprising" confirms that the term "having" means "consisting of only." (Dkt. No. 125 at 18) (citing *Lampi Corp. v. Am. Power Prods.*, 228 F.3d 1365, 1376 (Fed. Cir. 2000)). Plaintiff argues that there is nothing in the intrinsic record that would indicate that the claim is intended to be limited to only three radially-extending protrusions. (Dkt. No. 125 at 18). Plaintiff further argues that to the extent the "three radially-extending protrusions" limitation was added by amendment to the parent application, it was not done to distinguish art that had more than three protrusions. (*Id.*).

For the following reasons, the Court finds that the phrase **"the drive socket has radially-extending slots for receiving a driver having three radially-extending protusions [sic] corresponding to the slots"** should be given its plain and ordinary meaning.

b) Analysis

The phrase "the drive socket has radially-extending slots for receiving a driver having three radially-extending protusions [sic] corresponding to the slots" appears in asserted claim 1 of the '216 Patent. The Court finds that the phrase is unambiguous, is easily understandable by a jury, and should be given its plain and ordinary meaning. The claims use the open-ended transitional phrase "comprising" and recite that the drive socket is configured to receive a driver having three radially-extending protrusion corresponding to the slots. The unambiguous claim

language indicates that the drive socket must have at least three radially-extending slots.

Turning to the parties' dispute, the Court agrees with Plaintiff that in light of the intrinsic evidence the drive socket is not required to have exactly three slots. Defendants are correct that the patentee added the "three radially-extending protrusions" language in response a rejection based on hex-shaped socket prior art (Dkt. No. 114-5 at 7-8, 11). However, the Court does not agree that the amendment was a clear disavowal of every drive socket except one having "exactly three slots," as Defendants contend. Instead, the intrinsic evidence indicates that the prior art socket did not include any "radially-extending slots for receiving a driver . . . ." (Dkt 114-5 at 8). Accordingly, in the context of the intrinsic record, the Court disagrees that "having" means "consisting of only." *Lampi Corp. v. Am. Power Prods.*, 228 F.3d 1365, 1376 (Fed. Cir. 2000) ("Transitional phrases such as . . . 'having' . . . must be interpreted in light of the specification to determine whether open or closed language is intended. Manual of Patent Examining Procedure § 2111.03 (7th ed. rev. 2000).").

c) Court's Construction

The phrase **"the drive socket has radially-extending slots for receiving a driver having three radially-extending protusions [sic] corresponding to the slots"** will be given its plain and ordinary meaning.

8. "Delta drive" screwdriver, "Delta drive" socket

Disputed Term	Plaintiff's Proposal	Defendants' Proposal
Term #14 "Delta drive" screwdriver	"a socket or screwdriver shaped like a triangle"	Both terms are indefinite. Alternatively: "a screwdriver having a hexagonal core and only three radially extended protrusions, one of the radially extending protrusions in every other face of the hexagonal core"

Term #14 "Delta drive" socket	"a socket or screwdriver shaped like a triangle"	Both terms are indefinite. Alternatively: "a drive socket having a hexagonally shaped recess that can be used with a traditional hex drive screwdriver and three radially extending slots, one of the radially extending slots in every other annular face of the hexagonally shaped recess"

a) The Parties' Positions

The parties dispute whether a "Delta drive" screwdriver is limited to a hexagonal core and exactly three radially extending slots, as Defendants propose, or whether it is more broadly a socket or screwdriver shaped like a triangle, as Plaintiff contends. Plaintiff argues that its construction is supported by the intrinsic evidence and consistent with the ordinary and customary meaning. (Dkt. No. 118 at 39). Plaintiff further argues that the specification describes the Delta driver and its benefits. (*Id.*) ('977 Patent at 1:65–2:3). According to Plaintiff, a taper eventually forms a triangular shape. (Dkt. No. 118 at 39). Plaintiff contends that the essence of the Delta socket/screwdriver is that it is tapered or shaped like a triangle. (*Id.*).

Plaintiff further argues that Defendants' construction does not comply with the doctrine of claim differentiation. (*Id.*). Plaintiff states that dependent claim 3 of the '977 Patent recites "wherein the Delta drive socket comprises a hexagonally shaped recess with radially-extending slots in every other annular face." (*Id.*). Plaintiff argues that claim 1 must be broader than claim 3. (*Id.*). Plaintiff contends that Defendants' construction is not proper because it is limited to the configuration recited in dependent claim 3. (*Id.* at 40). Plaintiff also argues that the same analysis would apply to the similar claim 4 of the '986 Patent, as well as the corresponding analysis of the Delta screwdriver. (*Id.*). According to Plaintiff, Defendants' construction improperly attempts to import limitations into the claims. (*Id.*).

Defendants respond that the term "Delta drive" fails to inform a person of ordinary skill

in the art of the scope of the invention with "reasonable certainty." (Dkt. No. 122 at 48). Defendants contend that the term "Delta" is a trademark because it is capitalized in the specification and the claims. (*Id.*). Defendants argue that the use of a trademark in a claim renders it indefinite because a trademark evidences a source of origin, not the structure of a particular item. (*Id.*). Defendants further argue that the specification does not say that "Delta" refers to the shape of the socket's taper, as Plaintiff contends. (*Id.*) ('977 Patent at 1:65–2:3). Defendants contend that it perhaps suggests that "Delta" refers to the cross-sectional shape of the socket, but fails to explain the shape. (Dkt. No. 122 at 48).

Defendants also argue that "shaped like a triangle" is ambiguous. (*Id.* at 49). Defendants contend that there is nothing in the figures that is shaped "like a triangle" to provide the jury with a frame of reference. (*Id.*). Defendants argue that if "Delta drive" is to be construed at all, it should be construed to cover exactly what is shown in the figures. (*Id.*).

Plaintiff replies that Defendants' argument regarding the use of a capital "D" in Delta is not supported by the law. (Dkt. No. 125 at 19). Plaintiff contends that the term "delta" is described and illustrated in the patent as tapering. (*Id.*). According to Plaintiff, this is akin to the shape of a triangle or delta. (*Id.*). Plaintiff argues that Figures 1 and 3 show the taper which, if extended, would be shaped like a triangle or delta. (*Id.*). Plaintiff further argues that Defendants import a series of other limitations into the claim simply because they refuse to acknowledge that delta is a triangle or taper. (*Id.*). Plaintiff also argues that it would be improper to construe the term to cover exactly what is shown in the figures. (*Id.*).

For the following reasons, the Court finds that the term **"Delta drive" screwdriver** should be construed to mean **"a screwdriver having a hexagonal core and three radially extended protrusions, one of the radially extending protrusions in every other face of the**

hexagonal core," and that the term **"Delta drive" socket** should be construed to mean **"a drive socket having a hexagonally shaped recess that can be used with a traditional hex drive screwdriver and three radially extending slots, one of the radially extending slots in every other annular face of the hexagonally shaped recess."**

b) Analysis

The term "Delta drive" screwdriver appears in claim 3 of the '986 Patent, and in claim 2 of the '977 Patent. The Court finds that the term is used consistently in the claims and is intended to have the same meaning in each claim. The term "Delta drive" socket appears in claims 3 and 4 of the '986 Patent, and in claim 2 and 3 of the '977 Patent. The Court finds that the term is used consistently in the claims and is intended to have the same meaning in each claim.

The Court further finds that the "Delta drive" socket and "Delta drive" screwdriver are limited to having a hexagonal core/recess and three radially extending protrusions/slots. Plaintiff contends that Defendants' construction does not comply with the doctrine of claim differentiation because dependent claim 3 of the '977 patent recites "wherein the Delta drive socket comprises a hexagonally shaped recess with radially-extending slots in every other annular face." According to Plaintiff, this means that claim 1 must be broader. The Court disagrees. Claim differentiation is not a rigid rule that always requires construing the independent claims more broadly. *Laitram Corp. v. Rexnord, Inc.*, 939 F.2d 1533, 1538 (Fed. Cir. 1991) ("Claim differentiation is a guide, not a rigid rule."). Here, the intrinsic evidence indicates that the "Delta drive" socket and "Delta drive" screwdriver are limited to having a hexagonal core/recess and three radially extending protrusions/slots.

For example, the Summary of the Invention states that "[t]he tapered bioabsorbable

interference screw of the present invention includes a head provided with a *specially designed* Delta drive socket for receiving a Delta drive screwdriver or a traditional hex-head screwdriver." '977 Patent at 1:60–64 (emphasis added). The specification adds that "*[t]he unique drive socket of the interference screw of the present invention* optimizes the torque capacity of the screw." '977 Patent at 1:64–65, 3:6–8. The specification further states that the "unique drive socket" is a socket "with radially extending slots 40 in every other annular face of socket 35." '977 Patent at 3:2–3, Figures 2, 4. Accordingly, a person of ordinary skill in the art would understand that the specially designed, unique drive socket of the present invention should be limited to having a hexagonal core/recess and three radially extending protrusions/slots.

In support of its construction, Plaintiff argues that the term "delta" is described and illustrated in the patent as tapering. (Dkt. No. 125 at 19). Plaintiff contends that this is akin to the shape of a triangle or delta (Δ). (*Id.*). According to Plaintiff, Figures 1 and 3 show the taper which, if extended, would be shaped like a triangle or delta. (Dkt. Nos. 118 at 39, 125 at 19) (citing '977 Patent at 1:65–2:3). The Court finds that the passage cited by Plaintiff does not say that "Delta" refers to the shape of the socket's taper, and also does not state that the shape is "like a triangle." Moreover, the phrase "shaped like a triangle" is ambiguous because there is nothing in the figures that is shaped "like a triangle." Accordingly, the Court does not adopt Plaintiff's construction. Finally, in reaching its conclusion, the Court has considered the extrinsic evidence submitted by the parties, and given it its proper weight in light of the intrinsic evidence.

c) Court's Construction

The Court construes the term **"Delta drive" screwdriver** to mean **"a screwdriver having a hexagonal core and three radially extended protrusions, one of the radially extending protrusions in every other face of the hexagonal core."** The Court construes the

term **"Delta drive" socket** to mean **"a drive socket having a hexagonally shaped recess that can be used with a traditional hex drive screwdriver and three radially extending slots, one of the radially extending slots in every other annular face of the hexagonally shaped recess."**

E. The Drill Guide Patent

The parties' dispute focuses on the meaning and scope of two terms/phrases in the Drill Guide Patent.

1. "V-shaped indentation at the distal end of the drill guide for straddling a bone formation at a repair site"

Disputed Term	Plaintiff's Proposal	Defendants' Proposal
Term #30 "V-shaped indentation at the distal end of the drill guide for straddling a bone formation at a repair site"	"an opening having a V-shape spanning a tip of the drill guide for straddling anatomical bone at a repair site"	"an indentation that is in the shape of the letter V (and not U-shaped) at the distal end of the drill guide for straddling a bone formation at a repair site"

a) The Parties' Positions

The parties dispute whether the Court should adopt the construction in *Arthrex, Inc. v. Parcus Medical, LLC* (Case No. 2:11-cv-694) (M.D. Florida) (July 29, 2014) (Steele, J.). Plaintiff argues that Defendants offer no meaningful construction for the phrase. (Dkt. No. 118 at 45). Plaintiff also argues that it provides a construction that is consistent with the claims and specification. (*Id.*). Plaintiff also contends that its construction is consistent with the findings and construction of the Court in the *Arthrex v. Parcus* matter. (*Id.*).

Defendants respond that Plaintiff's construction fails to indicate that "V-shaped" cannot include a "U-shape." (Dkt. No. 122 at 49). Defendants argue that the patentee disclaimed a U-shape during prosecution. (*Id.*) (citing Dkt. No. 115-7). Defendants contend that the *Parcus* court

was not presented with this issue ("V-shaped" versus "U-shaped"), so the court did not resolve it. (Dkt. No. 122 at 49). Defendants also argue that the *Parcus* court erred in requiring the indentation to span the width of the guide. (*Id.*).

For the following reasons, the Court finds that the phrase **"V-shaped indentation at the distal end of the drill guide for straddling a bone formation at a repair site"** should be given its plain and ordinary meaning.

b) Analysis

The phrase "V-shaped indentation at the distal end of the drill guide for straddling a bone formation at a repair site" appears in claims 1 and 7 of the '451 Patent. The Court finds that the phrase is used consistently in the claims and is intended to have the same meaning in each claim. The Court further finds that the phrase is unambiguous, is easily understandable by a jury, and should be given its plain and ordinary meaning. Neither parties' construction provides further clarity to the disputed phrase. In fact, Plaintiff's construction does not indicate that the indention is at the "distal end of the drill guide" as recited in the disputed phrase. Instead, it replaces this language with "spanning a tip." Plaintiff has not provided a persuasive reason for redrafting the claims in this manner.

The Court further finds, and Plaintiff does not appear to dispute, that the patentees limited the indentation to V-shaped. First, the claim language itself requires the indention to be "V-shaped." Moreover, the V-shaped indention was used to distinguish the prior art that had a U-shaped indention. (Dkt. No. 115-7 at 5) (amending the claims to include a "V-shaped" indention, and arguing that "U-shaped" does not disclose "V-shaped"). Accordingly, to the extent that a party argues that the indention does not have to be V-shaped, the Court rejects this argument. Finally, in reaching its conclusion, the Court has considered the extrinsic evidence submitted by

the parties, and given it its proper weight in light of the intrinsic evidence.

c) Court's Construction

The phrase **"V-shaped indentation at the distal end of the drill guide for straddling a bone formation at a repair site"** will be given its plain and ordinary meaning.

2. "window [windows] near the distal end of the drill guide and proximal to the V-shaped indentation"/"window [windows] near the distal end of the drill guide…and proximal to the V-shaped indentation," "window"

Disputed Term	Plaintiff's Proposal	Defendants' Proposal
Term #31 "window [windows] near the distal end of the drill guide and proximal to the V-shaped indentation"/"window [windows] near the distal end of the drill guide…and proximal to the V-shaped indentation"	"a portal or framed opening, close to the distal end of the drill guide and spaced from the V-shaped indentation at the distal end in a direction towards the proximal end of the drill guide"	Does not require construction beyond the construction of "window"
Term #32 "window"	"a portal or framed opening"	"opening"

a) The Parties' Positions

The parties dispute whether the term "window" is any "opening," as Defendants propose, or if it is a "portal or framed opening," as Plaintiff proposes. Plaintiff argues that the claimed "window" of the '451 Patent is not merely an "opening," but is actually defined or framed by the walls of the drill guide shaft. (Dkt. No. 118 at 46). Plaintiff contends that these portals are distinguishable from the V-shaped opening or indentation at the tip of the drill guide. (*Id.*). Plaintiff argues that claim 1 of the '451 Patent requires the "window" be near the distal end of the drill guide and "proximal to the V-shaped indentation." (*Id.*). According to Plaintiff, Defendants' construction of "window" makes no distinction between the opening of the V-

shaped indentation and the claimed "window." (*Id.*).

Plaintiff further argues that Defendants' construction is also inconsistent with the prosecution history of the '451 Patent. (Dkt. No. 118 at 46). Plaintiff contends that the patentee originally claimed "an open section" rather than a "window." (Dkt. No. 118 at 46) (citing Dkt. No. 115-5). Plaintiff argues that the patentee replaced the term "open section" with the term "window," and also amended the claim to require the window be "proximal to the V-shaped indentation." (Dkt. No. 118 at 46) (citing Dkt. No. 115-7). Plaintiff also argues that the patentee then distinguished the "open section" and U-shaped opening of Hearn from its claimed "window." (*Id.*). Plaintiff contends that the examiner then allowed the amended claim. (Dkt. No. 118 at 46) (citing Dkt. No. 115-6).

Defendants respond that the specification describes an "open side window." (Dkt. No. 122 at 49) ('451 Patent at 3:26). According to Defendants, this contradicts Plaintiff's contention that the window must be a portal or framed opening. (Dkt. No. 122 at 49). Defendants contend that Plaintiff impermissibly limits the claimed window to the framed window in the '451 Patent Figures. (*Id.*). Defendants argue that Plaintiff ignores the rest of the specification and relies on ambiguous prosecution history that suggests only that the window is separate from the indentation. (*Id.*) (citing Dkt. No. 115-7). Finally, Defendants contend that it would be incongruous to exclude what Plaintiff called a "window" in a similar prior art. (Dkt. No. 122 at 49) (citing Dkt. No. 122-33).

For the following reasons, the Court finds that the term **"window"** should be construed to mean **"opening."** The Court further finds that beyond the construction of "window," the phrases **"window [windows] near the distal end of the drill guide and proximal to the V-shaped indentation"** and **"window [windows] near the distal end of the drill guide…and proximal**

to the V-shaped indentation" do not require construction.

b) Analysis

The term "window" appears in claims 1, 3, 4, 7, 9, and 10 of the '451 Patent. The Court finds that the term is used consistently in the claims and is intended to have the same meaning in each claim. The phrases "window [windows] near the distal end of the drill guide and proximal to the V-shaped indentation" and "window [windows] near the distal end of the drill guide…and proximal to the V-shaped indentation" appear in claims 1, 3, 4, 7, 9, and 10 of the '451 Patent. The Court finds that the phrases are used consistently in the claims and are intended to have the same meaning in each claim. The Court further finds that a person of ordinary skill in the art would understand that the term "window" is broader than a "portal or framed opening."

The specification describes the recited window as an "open side window." '451 Patent at 3:26. An open side window is broader than a "framed" window. Therefore, it would be incorrect to limit the recited "window" to the framed window illustrated in the '451 Patent Figures. Indeed, the specification generally states that the window "allows visualization during installa[t]ion of both the suture anchor and a laser mark, located on the suture anchor driver, that serves as a depth stop." '451 Patent at 1:59–62. Accordingly, the Court finds that the purpose of the window is to provide visualization, which is not limited to a "framed" window.

Plaintiff argues that Defendants' construction is inconsistent with the prosecution history of the '451 Patent. The Court disagrees that the patentee limited the meaning of window to a framed opening. It is true that the patentee replaced the term "open section" with the term "window" during prosecution. (Dkt. No. 115-7 at 2-3). It is also true that the patentee amended the claim to require the window to be "proximal to the V-shaped indentation." (*Id.*). However, the patentee did not argue that the prior art failed to disclose a "framed opening." Instead, the

patentee argued that the prior art did not "disclose or ever remotely suggest a window." (Dkt. No. 115-7 at 5). The Court finds that this is not a clear and unambiguous disclaimer of all non-framed openings. Accordingly, a person of ordinary skill in the art would understand that the recited windows should be construed as an "opening."

The Court further finds that beyond the construction of "window," the phrases "window [windows] near the distal end of the drill guide and proximal to the V-shaped indentation" and "window [windows] near the distal end of the drill guide…and proximal to the V-shaped indentation" do not require construction. As indicated by the parties, the primary dispute is the construction of the term "window." (Dkt. No. 118 at 45). Having resolved the parties' dispute as it relates to the term "window," the Court finds that further construction is not required. Finally, in reaching its conclusion, the Court has considered the extrinsic evidence submitted by the parties, and given it its proper weight in light of the intrinsic evidence.

c) Court's Construction

The Court construes the term **"window"** to mean **"opening."**

F. Defendants/Counter-Plaintiffs ArthroCare's Patent

The parties' dispute focuses on the meaning and scope of two terms/phrases in Defendant ArthroCare's Patent.

1. "suture return member"

Disputed Term	Plaintiff's/Counter-Defendant Proposal	Defendants'/Counter-Plaintiff Proposal
Term #34 "suture return member"	Plain and ordinary meaning. Alternatively, "a portion of the suture anchoring device that returns suture"	"a structure, such as a pin, about which tissue securing suture is wrapped"

a) The Parties' Positions

The parties dispute whether the "suture return member" and "anchor body" can be either separate parts or one piece, as Counter-Defendant ("C-Defendant") proposes, or whether the "suture return member" must be a separate and distinct structure from the anchor body, as Counter-Plaintiffs ("C-Plaintiffs") propose. The parties also dispute whether the "suture return member" need only return a "suture," as C-Defendant proposes, or whether it must return a "tissue securing suture," as C-Plaintiffs propose. The parties further dispute whether the "suture return member" is required to "return" suture, as C-Defendant proposes, or whether suture must be "wrapped" about the member, as C-Plaintiffs propose.

C-Plaintiffs argue that the all of the relevant evidence confirms that that "suture return member" should be construed to require a discernible "structure" around which suture is wrapped. (Dkt. No. 105 at 12). C-Plaintiffs contend that C-Defendant's construction ignores the "member" requirement, and merely requires that some "portion" of the device "returns suture." (*Id.*). C-Plaintiffs argue that reading the "member" requirement out of the claim would be legal error. (*Id.*). C-Plaintiffs contend that the '690 Patent specification consistently describes a "suture return member" as a discernable structure "about" which suture is wrapped. (*Id.*). C-Plaintiffs argue that this is the exclusive way in which suture is "returned." (*Id.*). C-Plaintiffs contend that this understanding is evident in the '690 Patent's description of embodiments such as Figures 4, 6, and 7. (*Id.*at 13) (citing '690 Patent at 9:39–41, 10:22–25, 4:34–37, 9:62–64, 12:30–35). C-Plaintiffs argue that nothing in the '690 Patent specification suggests that suture could ever be "returned" by any mechanism other than being passed "about" or "around" this structure. (Dkt. No. 105 at 13).

C-Plaintiffs further argue that their construction also tracks the specification's use of "suture return member" when discussing the stated purpose of the member. (*Id.* at 14). C-

Plaintiffs contend that by wrapping or threading the suture about the suture return member (*i.e.*, "returning" it), the suture can move axially about the suture return member in performing the tissue attachment. (*Id.*) ('690 Patent at 9:39–44). C-Plaintiffs argue that the specification's description clarifies the meaning of the claim term "return," and that a broader interpretation would be "completely untethered to the context of the invention in this case." (Dkt. No. 105 at 14) (citing *Eon Corp. IP Holdings LLC v. Silver Spring Networks, Inc.*, 815 F.3d 1314, 1321 (Fed. Cir. 2016)).

C-Plaintiffs also argue that the specification repeatedly provides an example of a "suture return member" by referencing a "pin." (Dkt. No. 105 at 14). C-Plaintiffs contend that the specification states that "there is disclosed a suture anchoring device which comprises an anchor body having an interior threaded wall, as well as a suture return member associated with the body, such as a pin, for returning a distally extending length of suture in a proximal direction." (*Id.*) ('690 Patent at 3:58–63). C-Plaintiffs argue that Figure 4 depicts such a pin. (Dkt. No. 105 at 14).

C-Plaintiffs further argue that C-Defendant's construction ignores the intrinsic record and contains no explanation for the term "return" whatsoever. (*Id.* at 15). C-Plaintiffs contend that under C-Defendant's proposal a "suture return member" could be any portion of the entire claimed suture anchoring device, even if separately recited in the claim. (*Id.*). According to C-Plaintiffs, the '690 Patent describes and claims a "suture anchoring device" that includes a specific structural component, which is the "suture return member" about which suture can be wrapped. (*Id.*).

C-Plaintiffs further contend that during prosecution of the application giving rise to the '690 Patent, the patentees justified the claimed "suture return member" limitation by

emphasizing the examples and descriptions of pin or pin-like structures. (*Id.*). C-Plaintiffs argue that the patentees repeatedly pointed to the structures discussed and depicted in various portions of the specification as "suture return members" that could be used with the embodiment shown in Figure 27. (*Id.* at 16) (citing Dkt. Nos. 105-5, 105-6). C-Plaintiffs further argue that the patentees also emphasized the specification's explanation that the sutures shown in Figure 27 extend distally through a central portion of the suture anchor body, "and continue about a suture return member or pin (not shown)." (*Id.*). C-Plaintiffs contend that the examiner withdrew these objections in response to the patentee's arguments. (Dkt. No. 105 at 16). C-Plaintiffs also contend that this exchange between the examiner and the patentees "provides evidence of how the PTO and the inventor understood" the term "suture return member." (Dkt. No. 105 at 16) (citing *Phillips,* 415 F.3d at 1317).

C-Plaintiffs also argue that dictionaries available as of the 2002 filing date reflect a universal understanding that a "member" was a constituent structure. (Dkt. No. 105 at 16) (citing Dkt. Nos. 105-7, 105-8, 105-9, 105-10). C-Plaintiffs further argue that C-Defendant submitted a series of dictionary definitions aligning with this understanding that a "member" is a distinct part of a structural whole. (Dkt. No. 105 at 17). C-Plaintiffs contend that these definitions further confirm that a person of ordinary skill in the art reading the '690 Patent specification would understand the phrase "suture return member" as requiring a structural component. (Dkt. No. 105 at 17).

C-Plaintiffs further argue that all of the relevant evidence confirms that the "suture return member" must be suitable for accommodating a suture that actually attaches to tissue and couples with the suture anchoring device. (Dkt. No. 105 at 17). C-Plaintiffs contend that every example in the '690 Patent concerning a "suture return member" involves the member receiving

"a length of suture" that serves such a tissue-supporting purpose. (*Id.*). According to C-Plaintiffs, nothing in the intrinsic record suggests that a "suture return member" could be configured solely for returning a "suture" of some other sort that never comes into contact with tissue. (*Id.*). C-Plaintiffs argue that this context dictates that a "suture return member" accommodate the return of "tissue-securing suture," as opposed to "suture" generically. (*Id.* at 18).

C-Plaintiffs also contend that the abstract of the '690 Patent provides a first example of this singular usage of the term "suture." (*Id.*). C-Plaintiffs further argue that Figures 1A–1F uniformly depict the "suture" as attached to tissue and anchored by the suture anchoring device. (*Id.*). C-Plaintiffs contend that other sections in the '690 Patent specification repeatedly describe the invention as an approach for connecting suture to soft tissue and coupling that same suture with the anchor for "anchoring suture which attaches the soft tissue to adjacent bone structure." (*Id.* at 19) ('690 Patent at 3:44–47, 4:11–14, 4:46–49, 6:45–48).

C-Plaintiffs also argue that their construction refers specifically to "tissue-securing suture" and therefore tracks what the patentees described. (Dkt. No. 105 at 19). C-Plaintiffs contend that C-Defendant's construction refers to "suture" generically and is "divorced from the context of the written description." (*Id.*) (citing *Eon*, 815 F.3d at 1320). According to C-Plaintiffs, nothing in the intrinsic record contemplates a "suture return member" intended for other types of suture. (Dkt. No. 105 at 19).

C-Defendant responds that contrary to C-Plaintiffs' contention, there is no requirement that the "suture return member" be distinct from the anchor body. (Dkt. No. 120 at 8). According to C-Defendant, the only reason C-Plaintiffs seek to add this limitation to its proposal is to appear consistent with their proposed construction of the term "member" with regards to the construction of this same term in the Cross Support Family of Patents owned by C-Defendant.

(*Id.*). C-Defendant argues that there is nothing in the intrinsic evidence that limits a "suture return member" to a pin, or any so-called "distinct" member. (*Id.*).

C-Defendant further argues that C-Plaintiffs' representation of the prosecution history is misleading. (*Id.* at 9). C-Defendant contends that C-Plaintiffs correctly note that the inventors overcame objections from the examiner in connection with Figure 27 failing to show a "suture return member." (*Id.*). C-Defendant argues that the patentees overcame those concerns by demonstrating that other figures, such as Figures 2-7 and 12-15 depict "suture return members" that may be used with the anchor shown in Figure 27. (*Id.*) (citing Dkt. No. 105-6). C-Defendant also argues that whether those figures showed an integral or separate "suture return member" is immaterial and was never part of the prosecution dialogue between the examiner and the patentee. (Dkt. No. 120 at 9). According to C-Defendant, what the patentees sought to show by their response is that various "suture return members" were specifically taught in the patent and that those could be implemented in the embodiment shown in Figure 27. (*Id.*). C-Defendant contends that there is no compelling reason to limit the claims to the preferred embodiment. (*Id.*) (citing *Rexnord Corp. v. Laitram Corp.*, 274 F.3d 1336, 1342 (Fed. Cir. 2001)).

C-Defendant also argues that C-Plaintiffs' construction is also inconsistent with the extrinsic evidence. (Dkt. No. 120 at 9). C-Defendant contends that many dictionaries define a "member" as part of a whole, and not necessarily a separate structure. (*Id.* at 10). C-Defendant also argues that some of the dictionary definitions cited by C-Plaintiffs are consistent with its position that a "member" need not be a separate structure. (*Id.*).

C-Defendant further contends that there is no support in the intrinsic or extrinsic record that the "suture return member" must be suitable for returning suture that supports soft tissue. (*Id.*). According to C-Defendant, C-Plaintiffs' position is based on the specification's description

of "suture," and not "suture return member." (*Id.* at 10). C-Defendant states that it does not dispute that the specification refers to both "suture" and "tissue." (*Id.*). C-Defendant contends that the patentees did not limit the use of the word "suture" in the claim language itself to being "tissue securing." (*Id.* at 11). C-Defendant argues that the patentees were aware of both the terms "suture" and "tissue," but did not include terms "tissue" and "tissue securing" in the claims. (*Id.*). C-Defendant contends that it would be improper to import a "tissue securing" limitation into the claim, especially when the disputed claim term is "suture return member," and not "suture" or even "tissue securing suture." (*Id.*). According to C-Defendant, "suture" is an adjective that in conjunction with "return" is used to modify the noun, "member." (*Id.*). C-Defendant argues that C-Plaintiffs' construction seeks to add limitations in the form of additional adjectives to "member," which were expressly omitted by the patentees in the claims. (*Id.*).

C-Defendant further argues that the specification makes multiple references to the relationship between the "suture return member" and "suture," but does not refer to tissue securing suture. (*Id.*) (citing '690 Patent at 3:58–63, 4:3–8, 4:26–30, 4:34–37, 4:67–5:4, 10:22–25, 12:30–35). According to C-Defendant, the specification itself does not limit "suture" to being only a "tissue securing suture." C-Defendant further argues that in prior litigation between Arthrex and Smith & Nephew in the Eastern District of Texas, the parties agreed that "suture" should be merely construed as "one or more filaments." (Dkt. No. 120 at 12) (citing Claim Construction Order in *Smith & Nephew v. Arthrex*, Case No. 2:07-cv-335-TJW, E.D. Tex.). C-Defendant contends that nothing in the plain and ordinary meaning of the term "suture" requires "suture" to be "tissue securing." (Dkt. No. 120 at 12).

C-Defendant also argues that the '690 Patent does not limit the term "suture return member" to a structure around which suture is "wrapped." (*Id.*). Regarding Figure 27, C-

Defendant contends that the ’690 Patent does not describe suture as “wrapped” about the suture return member. (*Id.*) (citing ’690 Patent at 14:22–25). C-Defendant further argues that the Summary of the Invention also describes “a suture return member disposed at a distal end of the anchor body, for receiving a length of suture extending distally through the body, and returning a portion of the suture length in a proximal direction.” (Dkt. No. 120 at 13) (citing ’690 Patent at 4:5–8). C-Defendant argues that a “suture return member” returns suture, and that there is no requirement the suture of the elected invention be “wrapped” about the “member.” (Dkt. No. 120 at 13).

Regarding the other embodiments disclosed in the specification, C-Defendant contends that the specification distinguishes between the terms “wrapped” and “returned.” (*Id.*) (citing ’690 Patent at 10:23–25, Figures. 6–7). According to C-Defendant, “wrapped” must have a different meaning than “returned.” (Dkt. No. 120 at 13). C-Defendant argues that C-Plaintiffs’ construction ignores the term “return” in “suture return member.” (*Id.*). C-Defendant contends that under C-Plaintiffs’ construction a suture return member need not “return” at all. (*Id.*). C-Defendant further argues that a construction that renders the term “return” to be meaningless, cannot be proper. (*Id.*). C-Defendant also contends that Figure 16 of the ’690 Patent illustrates a strand of suture that is wrapped around the core, but is not returned. (*Id.*). According to C-Defendant, it is clear that in the context of the ’690 Patent the patentee did not intend for “wrapped” and “return” to have the same meaning. (*Id.* at 14).

C-Plaintiffs reply that the term “suture return member” was coined by the inventors and does not have an ordinary and customary meaning outside the context of the ’690 Patent. (Dkt. No. 124 at 8). C-Plaintiffs contend that their construction explains the term “suture return member” in a manner that is faithful to the intrinsic and extrinsic evidence, and in a manner that

renders the term understandable to a lay jury. (*Id.*). C-Plaintiffs argue that the "return" portion of the phrase "suture return member" can be easily explained with the phrase "wrapped about." (*Id.* at 9). C-Plaintiffs further argue that in the '690 Patent, the suture return member is always a structure about which a tissue securing suture is wrapped so that it can be returned in a proximal direction. (*Id.*). C-Plaintiffs contend that the word "suture" in that phrase should be understood consistently with its uniform use as suture attached to tissue. (*Id.*). C-Plaintiffs further argue that an alternate word for the technical term "member" is "structure," as evidenced by all dictionary definitions submitted by both parties. (*Id.*).

C-Plaintiffs also argue that C-Defendant deconstructs "suture return member" into its three constituent words and urges the Court to include the word "return" in its construction on account of the word "return" in the claim language. (*Id.*). Regarding C-Defendant's argument that the word "wrapped" is not a synonym of "return," C-Plaintiffs argue that claim 1 independently requires that the member be "for … returning a portion of said suture length in a proximal direction." (*Id.*). C-Plaintiffs contend that it would be duplicative to construe the phrase "suture return member" to include this concept that is separately embedded in the claim. (*Id.*).

C-Plaintiffs further argue that the suture return member serves as a structure about which suture is "wrapped," and then the suture is thereby "returned." (*Id.* at 10). C-Plaintiffs contend that the suture's "return" is already accounted for in the claim language that immediately follows the disputed phrase, and need not be duplicated in the construction of that phrase. (*Id.*). C-Plaintiffs argue that the construction of "suture return member" should simply convey that it is the structure about which the tissue securing suture is wrapped. (*Id.*). C-Plaintiffs further argue that when their construction is placed into the context of the entire claim limitation, the claim conveys both wrapping and returning. (*Id.*).

C-Plaintiffs also contend that the only suture described in the '690 Patent is a tissue securing suture. (*Id.*). C-Plaintiffs argue that the first sentence of the Summary of the Invention makes clear that the invention relates to "anchoring suture which attaches soft tissue to bone." (*Id.*). C-Plaintiffs further contend that the '690 Patent never describes any other kind of suture. (*Id.*). C-Plaintiffs argue that C-Defendant's suggestion that a "suture return member" can wrap and return a suture that does not secure tissue is contrary to black-letter Federal Circuit law. (*Id.*) (citing *Phillips v. AWH Corp.*, 415 F.3d 1303, 1321 (Fed. Cir. 2005) (en banc); *Nystrom v. Trex Co., Inc.*, 374 F.3d 1105, 1112 (Fed. Cir. 2004)).

C-Plaintiffs further argue that the passages of the specification cited by C-Defendant are highly misleading. (Dkt. No. 124 at 11). C-Plaintiffs contend that the first five citations ('690 Patent at 3:58–63, 4:3–8, 4:26–30, 4:34–37, 4:67–5:4) all appear in the Summary of the Invention, which begins by teaching that "the inventors have developed new and novel approaches for securing soft tissue to bone, and particularly for axially anchoring suture which attaches the soft tissue to adjacent bone structure." (Dkt. No. 124 at 11) (citing '690 Patent at 3:44–47). According to C-Plaintiffs, the ensuing references to "suture" in the Summary of the Invention plainly refer to this same "suture which attaches the soft tissue to adjacent bone structure." (Dkt. No. 124 at 11).

C-Plaintiffs further argue that C-Defendant's last two citations ('690 Patent at 10:22–25, 12:30–35) refer to "suture length 34," which is a tissue securing suture as described repeatedly and exclusively in the specification. (Dkt. No. 124 at 11) (citing '690 Patent at 9:41–44, 9:67–10:2, 10:25–26, 11:46–49). C-Plaintiffs argue that every one of C-Defendant's references to "suture" is indisputably a tissue securing suture. (Dkt. No. 124 at 11). C-Plaintiffs also argue that C-Defendant's reliance on a construction of "suture" from a "prior litigation" is irrelevant as a

matter of law because it concerned entirely different patents without any connection to the ’690 Patent. (*Id.* at 12).

Regarding the term “member,” C-Plaintiffs argue that a “member” is a distinct “structure” about which suture is wrapped. (*Id.*). C-Plaintiffs contend that C-Defendant does not dispute that the embodiments are consistent in this regard. (*Id.*). C-Plaintiffs further argue that C-Defendant does not dispute that the figures to which the inventors pointed the PTO all include a distinct structure about which suture is wrapped. (*Id.*). C-Plaintiffs also argue that their construction does not require a “member” to be “limited to being a separate structure which is distinct from the anchor body.” (*Id.*). C-Plaintiffs further contend that many of the reasons why their construction of “member” for the C-Defendant’s pin patents is appropriate do not apply to the ’690 Patent. (*Id.*). C-Plaintiffs argue that the “ordinary meaning” of claim language is determined by applying appropriate canons of claim construction to the entire patent as viewed through the eyes of a person of ordinary skill in the art. (*Id.*). According to C-Plaintiffs, the only suture return members described in the patent are discrete structures about which tissue securing suture is wrapped. (*Id.*).

For the following reasons, the Court finds that the term **“suture return member”** should be construed to mean **“a member, such as a pin.”**

b) Analysis

The term “suture return member” appears in claim 1 of the ’690 Patent. The Court finds that the intrinsic evidence indicates that the recited “suture return member” is “a member, such as a pin.” The specification states that “[a] suture return member or primary pin 72 is disposed across the inner diameter of the insert 68, and may be suitably secured to the interior wall 70 in either a rotatable or fixed fashion, as desired.” ’690 Patent at 9:28–31. Likewise, the

specification states that "[a] pin 86 is disposed across the internal diameter of the body portion 82, in a manner similar to the pin 72 in FIGS. 4 and 5, secured at each end to the inner cylindrical wall 88 in either a fixed or rotatable manner." '690 Patent at 9:59–62.

C-Plaintiffs argue that the specification consistently describes a "suture return member" as a discernable structure "about" which suture is wrapped. (Dkt. No. 105 at 12). C-Plaintiffs contend that nothing in the '690 Patent specification suggests that suture could ever be "returned" by any mechanism other than being passed "about" or "around" the "suture return member." (*Id.* at 13). C-Plaintiffs further contend that C-Defendant's construction contains no explanation for the term "return." (*Id.* at 15). The Court disagrees.

C-Plaintiffs' arguments ignore the surrounding claim language. Claim 1 recites that the "suture return member" is "for receiving a length of suture extending distally through said body, and returning a portion of said suture length in a proximal direction." Therefore, claim 1 explicitly states that the "suture return member" is the member that "returns" a portion of the suture. Moreover, there is nothing in the claims or specification that requires the "suture return member" to be distinct from the anchor body. Similarly, there is nothing that prevents the "suture return member" from being added to the anchor body either. Accordingly, to the extent that C-Plaintiffs argue that the "suture return member" must be distinct from the anchor body, the Court rejects this argument. Likewise, to the extent that C-Defendant argues that the "suture return member" is required to be a "portion" of the anchor body, the Court rejects this argument.

C-Plaintiffs also argue that the '690 Patent repeatedly provides an example of a "suture return member" by referencing a "pin." The Court agrees and includes "pin" as an example of the recited "member." C-Plaintiffs further argue that the patentee successfully overcame two separate objections by the examiner by emphasizing the examples and descriptions of pin or pin-

like structures. (Dkt. No. 105 at 16). The Court notes that the objections from the examiner were in connection with Figure 27 failing to show a "suture return member." The patentees overcame those concerns by demonstrating that other Figures, such as Figures 2–7 and 12–15 depict "suture return members" that may be used with the anchor shown in Figure 27. (Dkt. Nos. 105-5 at 8, 105-6 at 8). Consistent with the prosecution history, the Court finds that the recited "member" may be a pin, but is not necessarily required to be a distinct "structure." C-Plaintiffs have not provided a compelling reason to limit the claims to a preferred embodiment.

C-Plaintiffs further contend that the "suture return member" must be suitable for returning suture that supports soft tissue. (Dkt. No. 105 at 18–19). C-Plaintiffs cite to multiple instances where the specification refers to "suture" that is attached to soft tissue. (*Id.*). The Court agrees that the specification refers to both "suture" and "tissue." However, the patentees did not limit the use of the word "suture" in the claim language itself to being "tissue securing," as C-Plaintiffs now propose. The patentees were aware of both the terms "suture" and "tissue," but did not recite "tissue" or "tissue securing" in the claims. Although there are instances where the specification refers to suture that is attached to soft tissue, it would be improper to import such a limitation into the claim. This is especially true here where the disputed claim term is "suture return member," and not "suture" or even "tissue securing suture."

Finally, C-Plaintiffs contend that the intrinsic evidence describes a "suture return member" as a structure about which suture is wrapped. (Dkt. No. 105 at 12). The Court finds that the intrinsic evidence does not limit the term "suture return member" to a structure around which suture is "wrapped." With respect to the elected species of Figure 27, the '690 Patent does not describe suture as "wrapped" about the suture return member. Instead, the specification explains that "[s]uture lengths 34a, 34b extend distally through a center portion of the body 228 and

continue about a suture return member or pin (not shown), extending proximally out of the body 228." '690 at 14:22–25. The Summary of the Invention also describes "a suture return member disposed at a distal end of the anchor body, for receiving a length of suture extending distally through the body, and returning a portion of the suture length in a proximal direction." '690 Patent at 4:5–8. In other words, a "suture return member" returns suture. There is no requirement the suture of the elected invention be "wrapped" about the "member," as C-Plaintiffs propose.

As to the other embodiments disclosed in the patent, the specification distinguishes between the terms "wrapped" and "returned." When discussing one arrangement of a suture return member, the specification explains that suture "is wrapped about the pin 100, which functions as a suture return member, and is returned proximally . . . ." '690 Patent at 10:23–25. This indicates that the suture is first "wrapped" about pin 100 and then "returned." Consequently, the intrinsic evidence indicates that "wrapped" has a different meaning than "returned." Finally, in reaching its conclusion, the Court has considered the extrinsic evidence submitted by the parties, and given it its proper weight in light of the intrinsic evidence.

c) Court's Construction

The Court construes the term **"suture return member"** to mean **"a member, such as a pin."**

2. "said passage tapering in width in a proximal to distal direction"

Disputed Term	Plaintiff's/Counter-Defendant Proposal	Defendants'/Counter-Plaintiff Proposal
Term #33 "said passage tapering in width in a proximal to distal direction"	"a path, channel, or duct that gradually decreases in width in a proximal to distal direction over its length"	"said path, channel, or duct gradually decreasing in width in a proximal to distal direction over at least a portion of its length"

a) The Parties' Positions

The parties agree that the passage must be a "path, channel, or duct that gradually decreases in width in a proximal to distal direction." The parties dispute whether the passage must decrease in width over its length, as C-Defendant proposes, or whether the passage needs to decrease in width only over a portion of its length, as C-Plaintiffs propose. C-Plaintiffs argue that the specification merely refers to the interior walls of the internal passage having a diameter that "decreases in a distal direction." (Dkt. No. 105 at 21) (citing '690 Patent at 14:17–30). C-Plaintiffs contend that a tapered configuration along any portion of this passage would satisfy the claimed limitation. (Dkt. No. 105 at 20). C-Plaintiffs also contend that Figure 27 only shows a portion of the passage. (*Id.*). According to C-Plaintiffs, nothing in the figure or the corresponding description indicates that the remaining portion of the suture anchor passage (not shown) must also be tapered. (*Id.*). C-Plaintiffs argue that this confirms that the entire passage need not be tapered because the patentees felt it unnecessary to show the entirety of the passage. (*Id.* at 21).

C-Plaintiffs further argue that the prosecution history confirms that the claims cover a partially tapered internal passage. (*Id.*). C-Plaintiffs argue that in a July 13, 2004 Non-Final Rejection, the examiner rejected then pending claim 5 (issued claim 1) as anticipated by Figure 23 shown in U.S. Patent No. 5,702,397 ("Goble"). (Dkt. No. 105 at 21) (citing Dkt. No. 105-3). C-Plaintiffs argue that Goble teaches a suture anchor with an internal passage. (Dkt. No. 105 at 21). C-Plaintiffs contend that Figure 23 shows that Goble's internal passage (140) is not tapered. (*Id.* at 22). According to C-Plaintiffs, the passage in Goble only tapers in width over a portion of its length as it expands between "lock ball 145" and "pulley 141." (*Id.*).

C-Plaintiffs further argue that the claims of the '690 Patent could not be distinguished over Goble based on the taper extending the entire length, because the '690 Patent claims do not require the taper to extend the entire length. (*Id.*). C-Plaintiffs contend that the patentee instead

distinguished Goble based on the direction of the tapering. (*Id.*). C-Plaintiffs argue that the internal passage of Goble narrows in width in a distal to proximal direction. (*Id.*) (citing Dkt. No. 105-5). C-Plaintiffs further argue that the '690 Patent claims require the internal passage to narrow in width in a proximal to distal direction. (*Id.*). According to C-Plaintiffs, it was this distinction that ultimately overcame the prior art rejection based on Goble. (Dkt. No. 105 at 22). C-Plaintiffs contend that nothing in the prosecution history supports narrowing the disputed phrase to a passage tapering over its entire length. (*Id.*).

C-Defendant responds that there is no reason to add C-Plaintiffs' limitation to the claims. (Dkt. No. 120 at 14). C-Defendant argues that claim 1 recites "said passage tapering in width in a proximal to distal direction," and does not recite "at least a portion of said passage," as C-Plaintiffs propose (*Id.*). C-Defendant further argues that the tapering "passage" is further required to extend "along an interior surface of said wall for accommodating said length of suture." (*Id.* at 15). According to C-Defendant, this language dictates that the passage and related taper must be long enough to accommodate a length of suture along the interior surface of the passage. (*Id.*).

C-Defendant further argues that this construction is also consistent with the elected embodiment illustrated in Figure 27 of the '690 Patent. (*Id.*) (citing Dkt. No. 120-5). C-Defendant argues that the only embodiment of the elected claim shows a passage tapering along its length, not some portion of the passage. (Dkt. No. 120 at 15). C-Defendant argues that C-Plaintiffs incorrectly contend that only a portion of the anchor is shown. (*Id.*). C-Defendant contends that Figure 27 shows the entire passage of the anchor. (*Id.* at 16). C-Defendant further argues that there are no cut lines for the anchor body, and there is not any other indication that the passage or anchor body continues beyond what is shown in Figure 27. (*Id.*). C-Defendant

contends that the specification confirms this by noting that the only thing missing from the anchor shown in Figure 27 is the "suture return member." (*Id.*) (citing '690 Patent at 14:22–25). C-Defendant argues that the patentee was required to indicate any partial view of the apparatus. (Dkt. No. 120 at 16) (citing MPEP § 608.02(V)). C-Defendant contends that one of ordinary skill in the art would interpret Figure 27 to be a depiction of the entire anchor body 228, because the specification of the '690 Patent does not indicate that Figure 27 is a partial view. (*Id.*) (citing '690 Patent at 6:33–35, 5:19–21).

C-Defendant further argues that even if the entire passage is not shown, there is no reason to believe any remaining portion of the passage is not tapered as well. (Dkt. No. 120 at 16). C-Defendant argues that the mere absence of a passage does not support the proposition that only some portion of the passage is tapered. (*Id.*). C-Defendant contends that C-Plaintiffs admit that "the inventors distinguished the direction of the tapering in Goble" to obtain allowance of the patent. (*Id.*). According to C-Defendant, this means that this portion of the prosecution history is simply unhelpful and uninformative to the question of whether the taper must extend over only a portion of the passage or extend over its length. (*Id.* at 17).

C-Defendant further argues that C-Plaintiffs' construction is fatally flawed because examining only a portion of the length of a passage would be inconsistent with the specification itself. (*Id.*). C-Defendant argues that Figure 27 shows a tapering passage with screw threads 234 creating a rising and falling thread profile. (*Id.*). C-Defendant contends that if the passage need only taper over a "portion" of the length of the passage and not its length, then the passage would constantly alternate between (1) tapering from the proximal to distal direction and (2) tapering from the distal to proximal direction. (*Id.*). C-Defendant further argues that one can also conceive of a straight passage with rounded edges. (*Id.*). According to C-Defendant, C-Plaintiffs'

construction would identify this passage as tapering in width in a proximal to distal direction though it decreases in width in both directions. (*Id.*).

C-Plaintiffs reply that C-Defendant seeks to rule out all but completely tapered passages. (Dkt. No. 124 at 13). C-Plaintiffs contend that nothing in the record justifies excluding partially tapered passages from the scope of claim 1. (*Id.*). C-Plaintiffs argue that C-Defendant does not cite to any portion of the specification that would justify reading a "full length" requirement into claim 1. (*Id.*). C-Plaintiffs also argue that C-Defendant relies exclusively on Figure 27 to reason that a restrictive construction is necessary because "[t]he only embodiment of the elected claim shows a passage tapering along its length." (*Id.*) (citing Dkt. No. 120 at 15). C-Plaintiffs argue that Figure 27 shows only a portion of the passage, and not the entire length. (Dkt. No. 124 at 13). C-Plaintiffs contend that the figure illustrates the "center portion" of the body 228, but omits the suture return member at the distal end. (*Id.*).

C-Plaintiffs further argue that even if Figure 27 did illustrate a passage that tapered over its full length, it would be incorrect to limit the claims to that embodiment. (*Id.* at 14). C-Plaintiffs argue that C-Defendant relies exclusively on Figure 27 and an ambiguous restriction requirement during prosecution. (*Id.*). C-Plaintiffs contend that in response to that restriction requirement, the patentees stressed that the figures did not all "relate to distinctly different species." (*Id.*) (citing Dkt. No. 105-4). C-Plaintiffs further argue that C-Defendant incorrectly suggest that Figure 27 is "inconsistent" with C-Plaintiffs' construction because the passage in Figure 27 happens to include screw threads with a "rising and falling" profile. (Dkt. No. 124 at 14). C-Plaintiffs contend that one can discern the taper within any individual turn of the thread. (*Id.*).

C-Plaintiffs further contend that C-Defendant is confusing two completely separate

features. (*Id.* at 15). C-Plaintiffs argue that claim 1 requires a passage "tapering in width in a proximal to distal direction," and that dependent claim 2 adds the requirement of internal threads along the surface of the wall that forms the passage. (*Id.*). According to C-Plaintiffs, the threads are irrelevant to assessing whether the passage tapers in width as the independent claim requires. (*Id.*). Finally, C-Plaintiffs argue that the prosecution history tracks their construction. (*Id.*). C-Plaintiffs contend that if the claims actually required a full length taper, that limitation would have been a straightforward basis on which to distinguish Goble. (*Id.*). C-Plaintiffs argue that C-Defendant does not dispute that Goble disclosed only a partially tapered passage. (*Id.*).

For the following reasons, the Court finds that the phrase **"said passage tapering in width in a proximal to distal direction"** should be construed to mean **"said path, channel, or duct gradually decreasing in width in a proximal to distal direction over at least a portion of its length."**

b) Analysis

The phrase "said passage tapering in width in a proximal to distal direction" appears in claim 1 of the '690 Patent. The Court finds that intrinsic evidence does not require the passage to decrease in width over its entire length, as C-Defendant proposes. Instead, the intrinsic evidence indicates that the passage needs to decrease in width only over a portion of its length, as C-Plaintiffs propose. C-Defendant argues that its construction is consistent with the elected embodiment illustrated in Figure 27 of the '690 Patent. (Dkt. No. 120 at 15). C-Defendant also argues that this elected embodiment shows a passage tapering along its length, not some portion of the passage. (Dkt. No. 120 at 15). The Court disagrees that Figure 27 indicates that the claims should be further limited as C-Defendant's construction would require.

The Court finds that it is reasonable to conclude that Figure 27 shows only a portion of

the passage, and not the entire length. Specifically, the specification states that Figure 27 illustrates the "center portion" of the body 228, but omits the suture return member at the distal end. '690 Patent at 14:23–25 ("Suture lengths 34a, 34b extend distally through a center portion of the body 228, and continue about a suture return member or 25 pin (not shown), extending proximally out of the body 228.") Moreover, even if Figure 27 does illustrate a passage that tapered over its full length, the Court finds that it would be improper to limit the claims to that one embodiment. *Info-Hold, Inc. v. Applied Media Techs. Corp.*, 783 F.3d 1262, 1267 (Fed. Cir. 2015) ("[W]e have 'expressly rejected the contention that if a patent describes only a single embodiment, the claims of the patent must be construed as being limited to that embodiment.'") (quoting *Liebel-Flarsheim Co. v. Medrad, Inc.*, 358 F.3d 898, 906 (Fed. Cir. 2004))

The Court further finds that the prosecution history indicates that the taper does not need to extend the entire length. Specifically, the prior art (Goble) cited by the examiner includes a taper that does not extend the entire length.

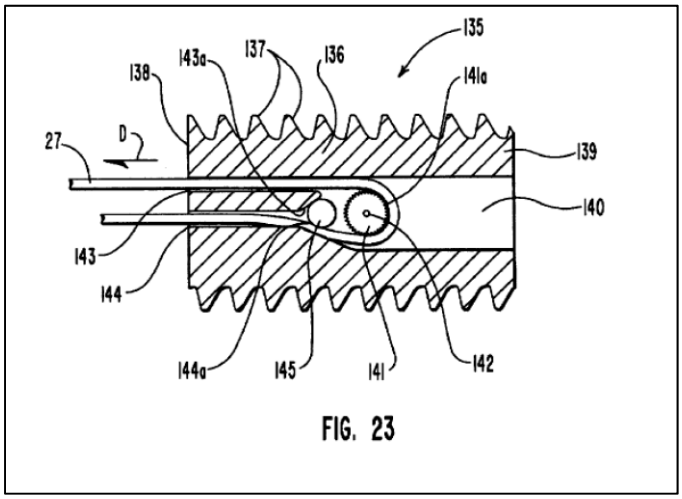

FIG. 23

(Dkt. No. 105 at 21 illustrating Figure 23). The Court finds that if the claims actually required a full length taper, that would have been a straightforward basis to distinguish the prior art. However, the patentees did not distinguish the prior art based on the length of the taper, but

instead distinguished Goble based on the direction of the tapering. (Dkt. No. 105-5 at 8) ("This limitation is clearly not met by the embodiment shown in Fig. 23 of Goble et al., which shows tapering of the passage 140 only in the distal to proximal direction.")

C-Defendant also argues that Figure 27 shows a tapering passage with screw threads 234 creating a rising and falling thread profile. (Dkt. No. 120 at 17). C-Defendant contends that if the passage need only taper over a "portion" of the length, then the passage would constantly alternate between (1) tapering from the proximal to distal direction and (2) tapering from the distal to proximal direction. (*Id.*). The Court disagrees that the rising and falling of the thread profile would satisfy the recited taper. As C-Plaintiffs argued, the Court finds that C-Defendant is confusing two separate features. It is dependent claim 2 that adds the requirement of internal threads along the surface of the wall that forms the passage. Claim 1 only requires a passage "tapering in width in a proximal to distal direction." The Court finds that a person of ordinary skill in the art could discern the taper apart from any individual turn of the thread. In addition, C-Plaintiffs represented to the Court at the claim construction hearing that they would not contend that one thread by itself would satisfy the recited taper.

c) Court's Construction

The Court construes the phrase **"said passage tapering in width in a proximal to distal direction"** to mean **"said path, channel, or duct gradually decreasing in width in a proximal to distal direction over at least a portion of its length."**

V. CONCLUSION

The Court adopts the above constructions. The parties are ordered to not refer, directly or indirectly, to each other's claim construction positions in the presence of the jury. Likewise, the parties are ordered to refrain from mentioning any part of this opinion, other than the definitions

adopted by the Court, in the presence of the jury. However, the parties are reminded that the testimony of any witness is bound by the Court's reasoning in this order but any reference to claim construction proceedings is limited to informing the jury of the definitions adopted by the Court.

SIGNED this 10th day of August, 2016.

ROY S. PAYNE
UNITED STATES MAGISTRATE JUDGE