NOTE: This disposition is nonprecedential.

United States Court of Appeals for the Federal Circuit

SMITH & NEPHEW INCORPORATED,
JOHN O. HAYHURST, M.D.,
Plaintiffs-Appellees

v.

ARTHREX, INCORPORATED,
Defendant-Appellant

2014-1691, 2014-1694

Appeals from the United States District Court for the District of Oregon in No. 3:04-cv-00029-MO, Judge Michael W. Mosman.

Decided: March 18, 2015

JOHN MICHAEL SKENYON, Fish & Richardson, P.C., Boston, MA, argued for plaintiffs-appellees. Also represented by MARK JOSEPH HEBERT, I.

CHARLES W. SABER, Dickstein Shapiro LLP, Washington, DC, argued for defendant-appellant. Also represented by SALVATORE P. TAMBURO, MEGAN S. WOODWORTH, S. GREGORY HERRMAN.

Before LOURIE, DYK, and TARANTO, *Circuit Judges.*

Opinion for the court filed by *Circuit Judge* TARANTO.

Opinion concurring in part and dissenting in part filed by *Circuit Judge* DYK.

TARANTO, *Circuit Judge*.

Smith & Nephew, Inc. (S&N) sued Arthrex, Inc. for infringement of U.S. Patent No. 5,601,557 in January 2004. In 2009, we affirmed a summary judgment rejecting the invalidity challenge but required a new infringement trial because of an error in the initial claim construction. In 2013, reversing a JMOL that had been entered in Arthrex's favor, we reinstated a jury verdict finding that Arthrex had infringed the '557 patent. On remand to the district court, Arthrex sought to relitigate the '557 patent's validity on the ground that our 2013 decision materially broadened the construction of a claim term. The district court denied the request. It also denied Arthrex's substantial-evidence-based challenge to the jury's finding of lost-profits damages, and it awarded S&N supplemental damages for post-verdict infringement. Arthrex appeals. We affirm.

BACKGROUND

This litigation has included three trials and two previous appeals. *See Smith & Nephew, Inc. v. Arthrex, Inc.*, 355 F. App'x 384 (Fed. Cir. 2009) (*S&N I*); *Smith & Nephew, Inc. v. Arthrex, Inc.*, 502 F. App'x 945 (Fed Cir. 2013) (*S&N II*). The same patent was also at issue in an earlier appeal in separate litigation. *See Smith & Nephew, Inc. v. Ethicon, Inc.*, 276 F.3d 1304 (Fed. Cir. 2001).

The '557 patent claims a method used by surgeons to anchor a suture in bone, thereby helping to attach (or reattach) tissue to the bone. The surgeon drills a hole through the hard, outer shell of a patient's bone and

presses an anchor into the drilled hole. *S&N II,* 502 F. App'x at 946. Beyond the hard outer shell of bone lies softer, cancellous bone, and the anchor of the claimed method has resilient legs that compress as they are inserted through the hole in the hard bone but expand once they reach the softer bone. *Id.* The expanded legs catch against the hard outer bone, lodging the anchor in place. *Id.* Claim 1 of the '557 patent reads as follows:

> 1. A method for anchoring in bone a member and attached suture, comprising the steps of:
> forming a hole in the bone;
> attaching a suture to a member;
> lodging the member within the hole by pressing the member with attached suture into the hole; and
> attaching tissue to the suture so that the tissue is secured against the bone.

'557 patent, col. 11, lines 2–10. This case involves S&N's allegation that Arthrex indirectly infringed by selling certain SutureTak and PushLock anchors having attached sutures ("suture anchors") that surgeons use to perform the claimed methods.

An initial trial in 2007 resulted in a hung jury. The district court then held a second trial in 2008, limited to the issues that the parties had raised in the first trial. After the jury found for S&N, Arthrex appealed. In 2009, we reversed the district court's construction of a claim term "resile"—which appears in claim 2 but had been held, in an unappealed ruling, implicit in claim 1's "member" language. *S&N I*, 355 F. App'x at 385–87 & n.1. We held that the anchor's "intrinsic resiliency" alone "must be sufficient to lodge the anchor" in the bone. *Id.* at 386. We vacated the jury verdict and remanded for a new trial on infringement. *Id.* at 387–89. We also affirmed the summary judgment rejecting Arthrex's validity challenge. *Id.*

In 2011, after remand, a new trial (the third) produced a verdict of infringement as well as an award of damages consisting of lost profits on sales lost to Arthrex's Bio-SutureTak anchors ($67,793,868) plus a reasonable royalty for the patented invention's use where S&N did not lose sales ($16,987,556). The district court, however, granted Arthrex JMOL of non-infringement after concluding that it had given the jury an incorrect construction of "lodging" and that no reasonable jury could find infringement under the correct construction. On S&N's appeal, we reversed the district court's JMOL construction of "lodging." *S&N II*, 502 F. App'x at 948–49. Agreeing with S&N, we held that the construction given to the jury was correct and that the jury could reasonably find infringement under that construction. We reversed the JMOL, reinstated the verdict, and "remand[ed] to the [district] court for further proceedings not inconsistent with [our] opinion." *Id.* at 950.

On remand, Arthrex filed two motions seeking to relitigate the issue of validity. Arthrex rested its motions on the contention that the construction of "lodging" we adopted in 2013, *S&N II*, 502 F. App'x at 949, was materially broader than the construction under which the invalidity challenge was originally rejected, a ruling we affirmed in 2009, *S&N I*, 355 F. App'x at 387–89. The district court rejected Arthrex's requests, concluding that this court's 2013 decision did not "meaningfully broaden[] claim construction." J.A. 35556.

Arthrex also renewed its post-trial motion challenging the lost-profits award, a motion it had originally filed after the second jury verdict. The district court denied the motion, stating that our mandate in *S&N II* prohibited it from reconsidering the lost-profits issue and that, in any event, "substantial evidence support[ed] the verdict." J.A. 35553–55. In September 2013, the court entered a judgment for the above-stated lost-profits and royalty amounts plus $3,533,450 in prejudgment interest.

Finally, S&N moved for supplemental damages to compensate for Arthrex's infringing sales made between the 2011 trial and March 2013. The district court granted S&N the requested supplemental damages. The court's December 2013 order added to the amounts already awarded $6,775,893 in supplemental damages plus $174,618 in pre-judgment interest.

Arthrex appeals. We have jurisdiction under 28 U.S.C. § 1295(a)(1).

DISCUSSION

A. Invalidity

In *S&N I*, we affirmed the district court's grant of summary judgment rejecting Arthrex's challenges to the validity of the '557 patent. 355 F. App'x at 387–89. Our mandate issued on January 15, 2010. In *S&N II*, we finally decided all issues of infringement, 502 F. App'x at 947–50, and our mandate issued on April 12, 2013. *S&N II* involved S&N's appeal from a judgment of non-infringement based on a claim construction of "lodging." In defending that judgment, Arthrex invoked what this court had said about "lodging" in *S&N I*'s invalidity discussion; but it did not argue that judicial estoppel, *see New Hampshire v. Maine*, 532 U.S. 742, 749 (2001), or the general principle that the same construction must be used for validity and infringement determinations, *see Amazon.com, Inc. v. Barnesandnoble.com, Inc.*, 239 F.3d 1343, 1351 (Fed. Cir. 2001), should preclude this court from adopting the construction that S&N was urging us to adopt in *S&N II*. *See* Arthrex's Br. at 32–34, *S&N II*, 502 F. App'x 945 (Fed. Cir. 2013) (No. 2012-1265). Arthrex also did not request a remand for reconsideration of the earlier validity judgment if we adopted S&N's construction. *Id.*

Despite the finality of resolution as to validity ordinarily inherent in that course of proceedings, Arthrex

argues that, on remand in 2013, it was entitled to relitigate the validity of the '557 patent. Its premise is that our construction of "lodging" in *S&N II* actually is inconsistent with, *i.e.*, broader than, the construction used to reject its invalidity position earlier.[1] Arthrex relies on *Cardiac Pacemakers, Inc. v. St. Jude Med., Inc.*, 576 F.3d 1348 (Fed. Cir. 2009) (en banc), which notes that, in some circumstances, "a changed claim construction may permit new anticipation [or other invalidity] arguments" consistent with the mandate rule, insofar as the arguments involve "directly related new issue[s]" raised by the changed construction. *Id.* at 1356.

We need not decide whether Arthrex is now precluded from making its broadening argument either because *S&N II* implicitly rejected it (based on Arthrex's invoca-

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[1] The construction of "lodging" we approved in *S&N II*, and under which we decided infringement, was the construction given to the jury in the third trial. That construction is identical to the construction given to the jury in the first two trials, and used to affirm the summary judgment regarding validity, except that the third-trial instruction adds a paragraph stating that "lodging" need only render the anchor secure enough to stay in the bone initially, until a surgeon applies tension to the suture (which causes the legs of the anchor to dig into the bone and renders the anchor more secure, '557 patent, col. 3, lines 4–6). *Compare Smith & Nephew Inc. v. Arthrex, Inc.*, No. 3:04-cv-00029-MO (D. Or. June 22, 2011) (Jury Instruction No. 13), *with Smith & Nephew Inc. v. Arthrex, Inc.*, No. 3:04-cv-00029-MO (D. Or. June 10, 2008) (Jury Instruction No. 14). Arthrex argues that, without that added paragraph, the construction required "lodging" to render the anchor secure enough to remain in the bone throughout surgery, even without the surgeon's application of tension.

tion of *S&N I*) or because Arthrex forfeited it by not invoking judicial estoppel or the same-construction-for-infringement-and-validity principle in *S&N II*. We also assume *arguendo* that our 2013 construction of "lodging" involved some broadening of the term's scope. But we still reject Arthrex's argument for reopening invalidity. Arthrex has not met its burden of showing that any such broadening is material, or therefore directly related, to the validity determination.

In the district court, Arthrex argued several grounds for reopening invalidity, but in this court, its only argument relates to prior-art grounds for invalidity. It asserts that it presented "at least six new prior art references to the district court" that "would not have invalidated under the district court's 2007 Construction . . . but may invalidate under the revised construction." Arthrex's Br. at 29. It contends that each such reference "disclose[s] a device that stays in the hole, by resilience, when it is first inserted into the hole, just as the broadened claim construction requires. For each of those references, however, another force must be applied (unrelated to the device's resilience) which keeps the device in the hole more permanently." *Id.*

In its briefs in this court, however, Arthrex has wholly failed to explain, or persuasively show, how the assumed broadening of claim construction newly made relevant any of the six references it cited in the district court. In the district court, Arthrex discussed in detail only one new reference: a published British patent application GB 2017503. It stated that the GB 2017503 reference discloses a "medical plug that is inserted into a preformed bone hole" with "resilient rings around its circumference that are bent upwards during insertion to maintain the plug in the bone hole." J.A. 34196. But that assertion does not address why another force is required to keep the device in the bone throughout surgery. Thus, as Arthrex itself did not dispute, GB 2017503 would have been

relevant even under Arthrex's conception of the "narrower" claim construction. J.A. 34195–96.

Nothing in *Cardiac Pacemakers* permits invocation of a new ruling to upset finality on a previously settled issue without a concrete showing of how the new ruling changes the resolution of the settled issue. Principles of finality embodied in law of the case and the mandate rule require at least that much. But Arthrex did not make such a showing in the district court. And it has done even less on appeal. "He who seeks to have a judgment set aside because of an erroneous ruling carries the burden of showing that prejudice resulted." *Palmer v. Hoffman*, 318 U.S. 109, 116 (1943); *SmithKline Diagnostics, Inc. v. Helena Labs. Corp.*, 859 F.2d 878, 892 (Fed. Cir. 1988) ("On appeal it is [Appellant's] burden to show not only that the district court erred, but also to persuade this court that had such error not occurred the result might have been different."). We therefore decline to disturb the district court's judgment that Arthrex is not entitled to relitigate the issue of validity.

B. Lost Profits

1. The district court erred in concluding that, in the 2013 remand proceedings, it was barred by the appellate mandate in *S&N II* from considering the merits of the challenge to the lost-profits award that Arthrex had raised after the last trial. Our mandate in *S&N II* did not resolve those issues, expressly or by implication.

In *Laitram Corp. v. NEC Corp.*, 115 F.3d 947 (Fed. Cir. 1997), we addressed the scope of our mandate in a situation similar to the one here. The jury rendered a verdict against defendant NEC, which moved for JMOL on infringement, willfulness, and claim identicality. *Id.* at 949. The district court granted JMOL of non-infringement and deemed the other two issues moot. *Id.* On appeal, this court reversed and "remanded 'with instructions to reinstate the jury's verdict.'" *Id.* (quoting

Laitram Corp. v. NEC Corp., 62 F.3d 1388, 1395 (Fed. Cir. 1995)). We held that our mandate in that earlier appeal did not preclude the district court, on remand, from considering the previously unaddressed JMOL contentions regarding willfulness and claim identicality. *Id.* at 956. In the present case, Arthrex challenged the jury verdict in several respects, including the lost-profits award, but the district court did not reach the lost-profits issue because it granted JMOL of non-infringement, making it unnecessary to decide the damages dispute. When we reinstated the verdict of infringement on appeal, the damages dispute again mattered. Under *Laitram*, our mandate in *S&N II* left the district court able, indeed obliged, to address the challenge to the lost-profits award.

S&N contends that Arthrex forfeited its challenge to the lost-profits award by not filing a cross-appeal presenting the issue to this court in *S&N II*. That contention is incorrect under *Laitram*, which ruled that NEC was not required to cross-appeal because "there were no rulings on the merits against its motions" and because "arguments . . . directed to [the motions denied as moot] were neither themselves on appeal nor relevant to the sole issue that was: infringement." *Id.* at 954. S&N's argument is also wrong under the general standard for cross-appeals. Arthrex's lost-profits challenge, if meritorious, would give it less relief than the judgment of non-infringement it was defending in *S&N II*. A cross-appeal for such a challenge is unnecessary and, in fact, improper. *See*, *e.g.*, *TypeRight Keyboard Corp. v. Microsoft Corp.*, 374 F.3d 1151, 1157 (Fed. Cir. 2004).

2. On the merits, however, we reject Arthrex's contention that the lost-profits award lacks substantial-evidence support. *See Lucent Techs., Inc. v. Gateway, Inc.*, 580 F.3d 1301, 1310 (Fed. Cir. 2009) (applying substantial-evidence review of factual findings within methodologically proper damages determination).

To establish entitlement to lost profits, "the burden rests on the patentee to show a reasonable probability that 'but for' the infringing activity, the patentee would have made the infringer's sales," *Crystal Semiconductor Corp. v. TriTech Microelecs. Int'l, Inc.*, 246 F.3d 1336, 1353 (Fed. Cir. 2001), though not necessarily all of those sales. S&N put on evidence to show (a) what products constituted "acceptable noninfringing substitutes" for the Arthrex Bio-SutureTak, *Panduit Corp. v. Stahlin Bros. Fibre Works, Inc.*, 575 F.2d 1152, 1156 (6th Cir. 1978), and (b) S&N's percentage of sales of that class of acceptable non-infringing substitutes (considering all sellers, including Arthrex). It is not meaningfully disputed on appeal that, if S&N was correct as to (a), then S&N, having ample production capacity, was entitled to apply the (b) percentage to Arthrex's infringing sales and to receive an award of the profits it would have made on that number of sales. *See Ericsson, Inc. v. Harris Corp.*, 352 F.3d 1369, 1377 (Fed. Cir. 2003) (citing *State Indus., Inc. v. Mor-Flo Indus., Inc.*, 883 F.2d 1573, 1577–80 (Fed. Cir. 1989)) (endorsing a market-share approach). S&N's expert presented that calculation to the jury, which adopted it.

The only aspect of the calculation meaningfully challenged by Arthrex on appeal is the identification of "acceptable non-infringing substitutes," *Panduit*, 575 F.2d at 1156, by S&N's expert as unduly narrow. We consider the evidentiary support for the jury determination bearing in mind that the object of the inquiry is to identify what products those surgeons who actually bought Bio-SutureTak anchors would have bought if Arthrex had not sold that product. And we also recognize that the inquiry typically "excludes alternatives to the patented product with disparately different prices or significantly different characteristics." *Crystal Semiconductor*, 246 F.3d at 1356.

S&N's expert, Mr. Troxel, testified that the class of acceptable non-infringing alternatives in this case consisted of anchors that were (1) bioabsorbable, (2) premounted on an inserter, (3) pre-loaded with a suture, and (4) inserted via a push-in or tap-in procedure. Arthrex's challenge is that the alternatives should not have been limited to push-in anchors, but should also have included anchors using other insertion methods. But S&N offered substantial evidence from which the jury could find that the S&N definition properly reflected the anchor features that matter for the lost-profits inquiry, namely, the features that mattered to the group of surgeons who in fact chose to use (and therefore controlled the buying of) the specific Arthrex product at issue. The jury could properly find that the preference for particular anchor characteristics revealed by the actual market behavior of those surgeons determined where those surgeons would have taken their business if they could not have purchased what they in fact bought.

There was evidence that, while hospitals and surgical centers are the direct purchasers of surgical anchors, it is surgeons who are the decision makers, the ones who choose which anchors to use in a given surgery. J.A. 18205, 18630. And there was evidence that the "push-in" feature was a significant factor in surgeons' choices generally. That evidence reinforces the fact that the specific sales at issue for the lost-profits inquiry were of anchors with the S&N-identified features that particular surgeons chose over anchors with other features available in the market.

Thus, Mr. Mahoney, S&N's Director of Medical Education, explained the selling points and drawbacks of each insertion method—explaining, in particular, that screw-in anchors, which require creating a "thread pattern" in the bone hole to match the screw threads on the anchor, can be troublesome for surgeons performing arthroscopic surgery, who may have trouble keeping the hole they

prepared within their field of view. J.A. 18640–41; *see* J.A. 18641–42 (plastic screw-in anchors more likely to break). Mr. Mahoney added that screw-in anchors and push-in anchors "tend to be used for different techniques, primarily," and he denied that they were "competitive products." J.A. 18649. Dr. Diduch, an orthopedic surgeon, made a similar point about the features that affect which anchor a surgeon is likely to select for a given procedure. He testified that screw-in anchors "may hold better in softer bone" but require an extra step for insertion. J.A. 18204–05. He stated that toggle anchors "work[] well in the softer bone with a hard shell," J.A. 18207, and that press-in anchors would likely not hold as well in less-solid bones. J.A. 18208. Thus, he explained, a surgery where he had reason to believe a bone would be less solid—such as a shoulder repair involving the humeral head in an older, female patient—might prompt him to select a toggle or screw-in anchor, rather than a press-in anchor, whereas a surgery in hard bone like the glenoid would permit him to use other anchor designs. *Id*. Finally, Arthrex's own witness, Mr. Benavitz, observed that some surgeons have preferences based on insertion method and that part of Arthrex's motivation in launching its Bio-SutureTak product was "to be able to offer . . . different anchors for the surgeons so they have their choice to use what they'd like to use." J.A. 19273.

The jury's conclusion that surgeons chose anchors based on their insertion methods (and therefore that only press-in anchors were acceptable, non-infringing alternatives here) is supported by substantial evidence. The jury was free to disbelieve or discount Arthrex's limited evidence pointing the other way. *See* J.A. 19198 (Dr. Greenleaf); J.A. 19314 (Mr. Carlozzi). Moreover, although Arthrex cites the statement of S&N's Dr. Warren that, if S&N's push-in anchor were unavailable, he "might use somebody else's screw-in device," J.A. 19309–10, Dr. Warren also said that he prefers the S&N product partly

because of its insertion method, noting difficulties with screw-in anchors, J.A. 19308–09. And Arthrex does not point us to evidence of such significant price-feature tradeoffs, or such distinctive brand loyalty (to Arthrex) or aversion (to S&N), or any other overriding preferences, that would require the jury to find that even the surgeons who in fact chose the features they did would have given up those features (still available in the market) in favor of others if the Bio-SutureTak had been unavailable. Arthrex thus does not identify evidence that makes the jury's finding unreasonable as a matter of law.

In particular, Arthrex focuses at too high a level of generality when it asserts that "suture anchors of various insertion methods competed against each other in the market for shoulder surgery throughout the period of alleged infringement." Arthrex's Br. at 45 (footnote omitted). For the lost-profits inquiry, "the mere existence of a competing device does not necessarily make that device an acceptable substitute." *Standard Havens Prods., Inc. v. Gencor Indus., Inc.*, 953 F.2d 1360, 1373 (Fed. Cir. 1991). A broad range of products might compete with each other in the sense that their sellers compete to convince surgeons that some advantageous features are better than others for a variety of surgeries. But the question for the lost-profits analysis here is narrower. It focuses on those buyers who (the jury could find) established their preference for certain features by actually selecting a product based on those features for particular surgeries; and it asks what products those buyers would have bought if Arthrex had not been selling the product they actually bought. For this purpose, "if purchasers are motivated to purchase because of particular features available . . . from the patented product, products without such features—even if otherwise competing in the marketplace—would not be acceptable noninfringing substitutes." *Id.*; *see also Cohesive Techs.,*

Inc. v. Waters Corp., 543 F.3d 1351, 1372–74 (Fed. Cir. 2008).

Accordingly, the jury's finding is not undermined by internal S&N documents indicating an expectation that the BioRaptor would be competing against a variety of anchors other than push-in suture anchors. J.A. 33304, 33331–48. Those S&N documents can readily be understood to indicate no more than that S&N would be trying to persuade surgeons who were using any number of different kinds of anchors for a variety of surgeries to choose the push-in suture anchor (BioRaptor). That does not imply that the group of surgeons that actually did choose push-in suture anchors (from Arthrex) for certain surgeries, in preference to non-push-in anchors, would have chosen a product lacking the push-in features for those surgeries just because Arthrex could not supply those anchors though other sellers could. The jury could properly find that those surgeons would have stuck with the product features they had chosen, turning to other sellers offering those features.

Finally, Arthrex argues that S&N should have accounted for what Arthrex itself would have done in a "but for" world where it could not sell the Bio-SutureTak. Arthrex's Br. at 49–50; *see Grain Processing Corp. v. Am. Maize-Prods. Co.*, 185 F.3d 1341, 1350–51 (Fed. Cir. 1999) ("[A] fair and accurate reconstruction of the 'but for' market also must take into account, where relevant, alternative actions the infringer foreseeably would have undertaken had he not infringed."). But the evidence is scanty, certainly far from strong enough to set aside the jury finding, as to what Arthrex itself would have done. There was some suggestion that it might have increased marketing for the "noninfringing" Bio-FasTak, Arthrex's Br. at 50, but the Bio-FasTak is a screw-in anchor, and the jury had sufficient evidence, as already noted, to find such an anchor not an acceptable alternative for current purposes. J.A. 18627–28. Among the anchors Mr. Troxel

identified as acceptable during the relevant period, the only one offered by Arthrex was infringing. *See* Arthrex's Br. at 55. The jury could find, given the dearth of evidence on the subject, that Arthrex would not have offered an acceptable non-infringing substitute in the "but-for" world. The jury's lost-profits award therefore is supported by substantial evidence.

C. Supplemental Damages

"[T]he amount of supplemental damages following a jury verdict is a matter committed to the sound discretion of the district court." *SynQor, Inc. v. Artesyn Techs., Inc.*, 709 F.3d 1365, 1384 (Fed. Cir. 2013) (internal quotation marks omitted). "A district court abuses its discretion when it ma[kes] a clear error of judgment in weighing relevant factors or exercise[s] its discretion based upon an error of law or clearly erroneous factual findings." *Aqua Shield v. Inter Pool Cover Team*, 774 F.3d 766, 770 (Fed. Cir. 2014) (alterations in original, internal quotation marks omitted). We reject Arthrex's challenges to the supplemental-damages award.

1. Arthrex argues that, as a matter of law, it could not have had the knowledge required to indirectly infringe during the period after the district court granted JMOL to Arthrex (or perhaps even when, during the last trial, it announced its belief that Arthrex was likely to win the jury verdict or eventual JMOL) and before this court reversed in *S&N II*. In considering this contention, we apply the Supreme Court's formulation: "induced infringement under § 271(b) requires knowledge that the induced acts constitute patent infringement." *Global-Tech Appliances, Inc. v. SEB S.A.*, 131 S. Ct. 2060, 2068 (2011) (extending the knowledge requirement for contributory infringement under § 271(c) to induced infringement under § 271(b)).

Arthrex rests its argument entirely on the contention that a good-faith belief in non-infringement negates the

required knowledge and is established as a matter of law by the district court's ruling (or pronouncement). But such a good-faith belief presents a factual question. *See*, *e.g.*, *Commil USA, LLC v. Cisco Systems, Inc.*, 720 F.3d 1361, 1368–69 (Fed. Cir. 2013), *cert. granted in part*, 135 S. Ct. 752 (2014); *Fujitsu Ltd. v. Netgear Inc.*, 620 F.3d 1321, 1330 (Fed. Cir. 2010); *cf. KangaROOS U.S.A., Inc. v. Caldor, Inc.*, 778 F.2d 1571, 1573 (Fed. Cir. 1985) ("Good faith, intent to deceive, scienter, [and] honest mistake are all questions of fact."). Whatever else may be said about Arthrex's argument, the district court's ruling and pronouncement could, at most, create a factual question, not an entitlement to a no-knowledge finding as a matter of law. But Arthrex does not request further factual adjudication, only a judgment as a matter of law of no indirect infringement for this period. We therefore reject Arthrex's contention, without the need to consider more fully whether, as Arthrex suggests, liability for indirect infringement can turn successively off and on, based on the knowledge requirement, when a trial court reaches one conclusion but the conclusion is then reversed on appeal.

2. Arthrex challenges the district court's basing of supplemental damages on the same definition of what products were acceptable non-infringing alternatives that the jury used to calculate lost profits, contending that the suture-anchor market has changed critically since the 2011 trial. Arthrex principally points to the emergence in 2010–2011 of so-called "all-suture" anchors. It argues that it was entitled to discovery on whether the emergence of all-suture anchors alters the required analysis of "what surgeons may find acceptable as non-infringing alternatives if Arthrex was no longer able to sell its BioSutureTak anchor." Arthrex's Br. at 55, 57.

The evidence that Arthrex advances is not sufficient to make the district court's reliance on the 2011 lost-profits analysis an abuse of discretion, even without

further discovery. The sales at issue were made to surgeons in 2011–13 who, despite the availability of all-suture anchors Arthrex touts as newly significant since 2010–11, chose the particular push-in Arthrex anchors at issue here. Lost-profits damages are awarded only for those sales. The question is what that particular group of surgeons would have chosen if the Arthrex suture anchors at issue had not been available. What those surgeons actually chose weighs heavily in answering that question. And the district court could readily conclude that a contrary answer is not suggested by the only evidence Arthrex advanced regarding all-suture anchors, namely, that surgeons as a whole, making purchases for a variety of surgeries, were increasingly choosing all-suture anchors over the type of suture anchors at issue here. Arthrex's proffer regarding all-suture anchors thus did not preclude the district court from carrying forward the lost-profits calculation to award supplemental damages.

Nor did Arthrex's secondary challenge, *i.e.*, that two "biocomposite" anchors—Arthrex's BioComposite SutureTak and DePuy Mitek's Gryphon P anchors—should have been included in the market-share calculations for the 2011–13 period. Arthrex's Br. at 57. It is undisputed that, as shown by the discussion in S&N's expert report, S&N's damages calculation at trial excluded biocomposite anchors (such as Arthrex's BioComposite SutureTak), which were on the market during the period covered by the trial. J.A. 31041, 35794, 36032. And it is undisputed that Arthrex never challenged the exclusion of biocomposite anchors at trial. In later opposing supplemental damages, Arthrex simply did not present a strong enough reason for the district court to conclude that newly available evidence required a different finding on this point from the one Arthrex did not challenge at trial. At best, Arthrex presents general evidence of growing popularity of biocomposite anchors, but that evidence does no more for Arthrex than its evidence regarding all-suture an-

chors. That evidence is insufficient for present purposes even aside from the serious question about whether the BioComposite SutureTak is actually non-infringing. *See* S&N's Br. at 60.

In short, Arthrex did not present evidence that required the district court to launch additional litigation on whether the calculation of supplemental damages had to depart from the calculation used for the lost-profits award. Without such evidence, the district court could properly rely on that calculation and bring it forward to the post-trial period.

CONCLUSION

For the foregoing reasons, we affirm the judgment of the district court.

AFFIRMED

NOTE: This disposition is nonprecedential.

United States Court of Appeals for the Federal Circuit

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Appeals from the United States District Court for the District of Oregon in No. 3:04-cv-00029-MO, Judge Michael W. Mosman.

DYK, *Circuit Judge*, concurring-in part and dissenting-in part.

I join the majority opinion with the exception of the majority's decision sustaining the lost profits award.

I

"To recover lost profits, the patent owner must show 'causation in fact,' establishing that 'but for' the infringement, he would have made additional profits." *Grain Processing Corp. v. Am. Maize–Prods. Co.*, 185 F.3d 1341, 1349 (Fed. Cir. 1999) (citing *King Instruments Corp. v. Perego*, 65 F.3d 941, 952 (Fed. Cir. 1995)). The appropri-

ate framework is provided by *Panduit Corp. v. Stahlin Bros. Fibre Works*, 575 F.2d 1152, 1156 (6th Cir. 1978). Under *Panduit*, "[t]o obtain as damages the profits on sales he would have made absent . . . infringement, . . . a patent owner must prove: (1) demand for the patented product, (2) absence of acceptable noninfringing substitutes, (3) his manufacturing and marketing capability to exploit the demand, and (4) the amount of the profit he would have made." *Id.* Here, the parties contest the second factor. Arthrex, Inc. ("Arthrex") argues that Smith & Nephew Inc. ("S&N") failed to meet its burden as to the absence of acceptable non-infringing substitutes. In that respect, patentee S&N bore the burden at trial "to show a reasonable probability that [it] would have made the asserted sales 'but for' the infringement." *Grain Processing*, 185 F.3d at 1349 (citations omitted). "Reconstructing the market . . . requires the patentee to project economic results that did not occur. To prevent the hypothetical from lapsing into pure speculation, this court requires sound economic proof of the nature of the market and likely outcomes with infringement factored out of the economic picture." *Id.* at 1350.

II

All of the asserted claims are to methods where a suture anchor is pressed into a bone, and the resilience of the anchor holds it in place in the bone. This method contrasts, for example, with using a screw-in anchor or a toggle-fit anchor. Here the issue is whether types of anchors that do not have the features of the patented methods (i.e., screw-in and toggle-fit anchors) are acceptable substitutes for the push-in anchors of the patented methods.

At trial, S&N presented expert testimony by Richard Troxel that S&N was entitled to a lost profits award as a result of lost sales. Troxel testified that lost profits were properly calculated by looking only to a market of prod-

ucts containing the patented features. Troxel defined the relevant market as suture anchors "inserted by a push-in or tap-in procedure—as contrasted . . . to a screw-in or a toggle fit," "preloaded with a suture," and "premounted on an inserter." J.A. 18715. In other words, he excluded anchors which screw in or toggle fit. Troxel testified that he limited the market to only devices with those characteristics because "it seem[ed] to [him] that a surgeon has to make a specific decision as to the anchor . . . that he or she is going to use in a particular procedure" and that "it seems to be a very explicit decision by the surgeon as to which item is appropriate for that particular surgery in that particular patient." J.A. 18716. Based on market share, Troxel calculated that, using the year 2008 as an example, S&N would have made 87.5 percent of Arthrex's sales of the accused devices, had Arthrex not infringed. The jury verdict awarded the amount of lost profit damages that Troxel calculated, and judgment was entered against Arthrex for that same amount. If other non-infringing alternatives had been considered, S&N's market share would have been reduced below that which Troxel calculated for a given year.

The problem is that Troxel had no basis for excluding screw-in and toggle-fit anchors. Troxel admitted that he "did not speak to any surgeons," and that he did not conduct any surveys of surgeons. J.A. 18797. He further stated that he did not "recall any literature that ever addressed [the] issue" of what type of anchor a surgeon would turn to if the surgeon were unable to purchase the accused product. J.A. 18798. Troxel testified that he had not studied what the market would have been like were the infringing device never introduced, stating, "that would be completely a speculation." J.A. 18781.

III

The majority appropriately does not rely on Troxel's testimony as supporting the absence of non-infringing

alternatives. Rather, the majority relies on the testimony of fact witnesses, which it says shows that "surgeons chose anchors based on their insertion methods (and therefore that only press-in anchors were acceptable, non-infringing alternatives here) . . . ." *Maj. Op.* at 12. But these witnesses did not testify that a surgeon would not substitute a screw-in anchor or a toggle anchor had the infringing product not been on the market.

Much of the testimony that the majority relies on only establishes that, for certain surgeries, some surgeons may prefer a toggle-fit or screw-in anchor over a press-in anchor. This hardly shows that toggle-fit or screw-in anchors are not substitutes for press-in anchors. By contrast, the evidence addressing why surgeons would choose a press-in anchor over other types of anchors is meager. Mr. Mahoney, the patentee's Director of Medical Education, only described the various characteristics of the different types of suture anchors, stating that S&N's product is the closest competitor of Arthrex's infringing product, that screw-in devices were not competitive products, and that a toggle product "would be closer than the screw-in, but . . . not a direct competitor." J.A. 18649. This type of conclusory testimony is exactly what *Grain Processing* held to be insufficient. 185 F.3d at 1350. S&N's witness Dr. Diduch, an orthopedic surgeon, merely stated that he would consider the type of surgery being performed when choosing the type of anchor to use and that different types of anchors have advantages and disadvantages. And Arthrex's witness, Mr. Benavitz, testified only that some surgeons prefer push-in anchors, some prefer screw-in anchors, and some prefer either type, and that the accused infringer launched the infringing product so that surgeons would have their choice of what to use. Indeed, Benavitz testified that the different types of anchors—screw-in anchors, toggle anchors, resilient anchors, and push-in anchors—all compete with one another and are used for the "same indications" and that

he had "seen cases where a surgeon will use two different types of anchors in the same case." J.A. 19250–51. While witness testimony may suggest that some individual surgeons may prefer press-in anchors in certain circumstances, there was no attempt to quantify what proportion of surgeons would not choose a screw-in or toggle-fit anchor. None of the testimony establishes under the *Grain Processing* standard that the market for alternatives should be limited to devices having the patented features.

To the contrary, Arthrex's expert Dr. Greenleaf testified that "the insertion method isn't particularly important. What's important is that the anchor do its job . . . . The mechanism of that per se isn't particularly important." J.A. 19198. There was also evidence from fact witnesses that other types of anchors could serve as substitutes for the infringing push-in suture anchor. Arthrex's witness Mr. Carlozzi testified that "[i]n a clinical setting, whether you tap [i.e., push in an anchor] or screw it in, it really doesn't matter, as long as once it's in, it stays there and holds into the bone." J.A. 19314. Dr. Warren, S&N's witness, testified that if he could not use S&N's push-in product, he might use the push-in anchor of another brand, or he "might use somebody else's screw-in device." J.A. 19309–10. He also stated that, while he liked using S&N's push-in product, someone could use a screw-in anchor and "wouldn't have any problem with it" because "[t]here is more than one way to skin a cat." J.A. 19308. S&N's own documents indicate that it saw its primary competition as coming from a toggle anchor and a screw-in anchor. Cases like *Standard Havens Products, Inc. v. Glencor Industries, Inc.*, 953 F.2d 1360, 1373 (Fed. Cir. 1991), do not suggest that evidence of competing products is irrelevant. *Standard Havens* merely holds that "if purchasers are motivated to purchase because of particular features available only from the patented product, products without such features—even if other-

wise competing in the marketplace—would not be acceptable infringing substitutes." *Id.*; *see also Cohesive Techs., Inc. v. Waters Corp.*, 543 F.3d 1351, 1373 (Fed. Cir. 2008) (quoting *Standard Havens* for the same proposition).

The majority also relies on the fact that the patented product was purchased, stating that "actual market behavior of . . . surgeons determined where those surgeons would have taken their business if they could not have purchased what they in fact bought." *Maj. Op.* at 11. But the fact that surgeons purchased the infringing anchor cannot establish the absence of non-infringing alternatives. The *Panduit* factor pertaining to non-infringing substitutes recognizes that, even where consumers have purchased the infringing device, those consumers may have chosen a non-infringing alternative were the infringing device not on the market.

To limit the market to devices containing the patented features, S&N had the burden of showing that buyers specifically want a product having the advantages of the patent. *See Slimfold Mfg. Co. v. Kinkead Indus., Inc.*, 932 F.2d 1453, 1458 (Fed. Cir. 1991). It failed to meet its burden at trial and with respect to the supplemental damages calculation. Because S&N failed to meet its burden on the lost profits issue, I respectfully dissent.