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**UNITED STATES COURT OF APPEALS
FOR THE ARMED FORCES**

UNITED STATES

Appellee

v.

Nicholas S. BAAS, Corporal
United States Marine Corps, Appellant

No. 19-0377

Crim. App. No. 201700318

Argued March 17, 2020—Decided May 28, 2020

Military Judges: Forrest W. Hoover and Peter S. Rubin

For Appellant: *Lieutenant Daniel E. Rosinski*, JAGC, USN
(argued).

For Appellee: *Lieutenant Joshua C. Fiveson*, JAGC, USN
(argued); *Lieutenant Colonel Nicholas L. Gannon*, USMC,
Lieutenant Commander Timothy C. Ceder, JAGC, USN,
and *Brian K. Keller*, Esq. (on brief); *Colonel Mark K.
Jamison*, USMC.

Judge RYAN delivered the opinion of the Court, in
which Chief Judge STUCKY and Judges OHLSON,
SPARKS, and MAGGS (except as to Part II.B), joined.
Judge MAGGS filed a separate opinion, concurring in
part and in the judgment.

Judge RYAN delivered the opinion of the Court.

A general court-martial convicted Appellant, contrary to
his pleas, of two specifications of conspiracy,¹ one specifica-
tion of false official statement, two specifications of raping a
child, two specifications of producing child pornography with
intent to distribute, and two specifications of distribution of
child pornography in violation of Articles 81, 107, 120b, and
134, Uniform Code of Military Justice (UCMJ), 10 U.S.C.

¹ Following findings, the military judge consolidated the two
conspiracy specifications into one. *United States v. Baas*, No.
NMCCA 201700318, 2019 CCA LEXIS 173, at *1 n.1, 2019 WL
1601912, at *1 n.1 (N-M. Ct. Crim. App. Apr. 15, 2019).

§§ 881, 907, 920b, 934 (2012). In accordance with his pleas, he was acquitted of one specification of raping a child, one specification of producing child pornography, and one specification of distributing child pornography. Appellant was sentenced to forfeiture of all pay and allowances, reduction to grade E-1, confinement for fifteen years, and a dishonorable discharge. The convening authority approved the sentence as adjudged and the United States Navy-Marine Corps Court of Criminal Appeals (NMCCA) affirmed the findings and sentence. *Baas*, 2019 CCA LEXIS 173, at *55, 2019 WL 1601912, at *19.

We granted review of two issues:

I. Did admission of an allegedly positive Diatherix Laboratories test for gonorrhea, without testimony at trial of any witness from Diatherix,² violate the Sixth Amendment Confrontation Clause?

II. Did the lower court abuse its discretion in admitting an alleged positive Diatherix test result for gonorrhea in a child's rectal swab—where Diatherix failed to follow its own procedures and the result was of near zero probative value?

The first question we answer in the negative. As to the second question, even assuming error, we find no prejudice. We therefore affirm the lower court.

I. Background

The charges arose out of Appellant's abuse of his son, GB. In June 2016, Appellant's girlfriend, KM, searched through his cellphone for evidence of infidelity and discovered messages in the Skype application between him and "Hailey Burtnett"³ from August 2015 to June 2016. In these

² Although the executive vice president of Diatherix was a witness at an Article 39(a), UCMJ, 10 U.S.C. § 839(a) (2012), session, neither he nor any Diatherix employee who administered the test at issue testified at trial.

³ Hailey Burtnett was never located or identified. While Appellant claimed to have known her from his high school in Alabama, he never saw her since the Skype feed was one-way, and law enforcement was unable to find any record of such a person at the school or in that town. "Hailey's" internet protocol (IP) address did not originate from Florida—where she told Appellant she lived—

messages—exchanged simultaneously but with a one-way video in which Hailey could view Appellant though he could not view her—Hailey directed Appellant to perform sexual acts on his infant son. The messages indicated that Appellant complied.

KM gave Appellant’s phone to his chain of command, who then alerted the Naval Criminal Investigative Service (NCIS). NCIS apprehended and interrogated Appellant. During his NCIS interview, Appellant admitted performing the acts Hailey directed him to do but insisted that the object of those acts was a green teddy bear belonging to his son, and not GB himself. When the NCIS agents expressed disbelief at this defense given the obscene specifics and the inability to commit the acts described with a teddy bear, Appellant explained that all the graphic descriptions and directions were the stuff of imagination. Then, attempting to demonstrate his innocence, Appellant admitted that he had chlamydia and gonorrhea, and insisted that should NCIS test GB for the infections, the tests would come back negative.

The day after Appellant’s NCIS interview, GB’s mother, who had separated from Appellant in 2015, took the child to Coastal Children’s Clinic for an appointment with Dr. Lisa Kafer, who performed a physical examination on GB. Finding no visible signs of abuse, Dr. Kafer obtained a rectal swab of GB and ordered a test from Diatherix—a diagnostic service—to check for chlamydia and gonorrhea. Diatherix ran a nucleic acid amplification test (NAAT), which came back positive for gonorrhea. Dr. Kafer then referred GB to another medical center for a confirmatory culture test and treatment. That facility ran the wrong test, contaminated the sample by refrigerating it, and treated GB with an antibiotic, which foreclosed the possibility of further confirmatory testing.

but resolved back to Spain, France, Iceland, and Germany. Though we don’t know who Appellant skyped with, or if it was even a woman, for purposes of the opinion we will use the name and sex of the person Appellant believed he was communicating with.

Before trial, defense counsel moved to exclude the Diatherix test result under both the Confrontation Clause and *Daubert v. Merrell Dow Pharms., Inc.*, 509 U.S. 579 (1993). The military judge admitted the test result, finding no Confrontation Clause violation because the result was not testimonial: It was “not made with an eye toward litigation” but was part of GB’s medical treatment.

As to the *Daubert* challenge, both parties submitted voluminous documentary evidence, and the military judge heard expert testimony from each party in a lengthy Article 39(a), UCMJ, hearing. The defense called Dr. Hammerschlag, a pediatrician and certified expert in the field of sexually transmitted infection (STI) diagnostics, who testified that the particular NAAT Diatherix used had not been reviewed by the Food and Drug Administration (FDA), and the Centers for Disease Control and Prevention (CDC) does not recommend the use of NAATs generally on prepubescent boys because the low prevalence of gonorrhea in that population creates a high probability of false positives. This probability, the expert claimed, made it unlikely that GB’s test result was a true positive.

The Government proffered two experts: Drs. Stalons and Hobbs. Dr. Stalons, Diatherix’s executive vice president and clinical director, explained the company is accredited by the American College of Pathologists (CAP) and certified for testing bacteria like gonorrhea. He added that portions of the NAAT Diatherix uses are proprietary, which meant that the test had not been reviewed by the FDA. Nevertheless, the test has a 99% accuracy rate when testing blind samples as part of its accreditation and a 100% accuracy rate for the particular gonorrhea tested in this case. Dr. Hobbs, an expert in microbiology, agreed with the defense expert that the low prevalence of gonorrhea among boys increased the likelihood of false positives, but disagreed with her on what the likelihood of a false positive was. Dr. Hobbs also testified that a culture is typically preferred to an NAAT in cases of suspected child abuse. She nevertheless determined that be-

cause Diatherix's NAAT is highly accurate, precise, sensitive, and specific,⁴ the test produces valid results.

Based on the expert testimony and the parties' submissions, the military judge issued a written ruling applying the *Daubert* factors to conclude that the test was "a reliable test based upon scientific principles." The military judge found that the defense expert's concern that the test had a low positive predictive value when used for samples from prepubescent boys did not "undermine the scientific principles upon which the test is based."⁵ He cited *United States v. Sanchez*, 65 M.J. 145, 151 (C.A.A.F. 2007), for the proposition that "existence of an error rate or disagreement over what that rate may be does not render the test inadmissible," and denied defense counsel's motion to exclude the test result.

At trial, the Government introduced Appellant's statements to NCIS, the testimony of several expert and lay witnesses, both Appellant's and GB's positive test results for gonorrhea, and Appellant's Skype conversations with Hailey.

The conversations reveal a course of conduct that involved Hailey orchestrating and directing sexual conduct for Appellant to perform upon himself, *see, e.g.*, Joint Appendix

⁴ A test is accurate if it can produce "a true indication of the nature and quantity of the substance or object being measured." S. W. Martin, *The Evaluation of Tests*, 41 Can. J. Comp. Med. 19, 23 (1977). A test is precise if it is able "to give consistent results in repeated determinations in the same sample or [subject]." *Id.* A test's sensitivity refers to its ability "to correctly identify those patients *with* the disease," whereas its specificity refers to its ability "to correctly identify those patients *without* the disease." Abdul Ghaaliq Lalkhen & Anthony McCluskey, *Clinical Tests: Sensitivity and Specificity*, 8 Continuing Educ. in Anaesthesia, Critical Care & Pain 221, 221 (2008) (emphasis added). Diatherix's test accuracy was 94.6%, its precision 99.7%, its sensitivity comparable to other NAATs, and its specificity perfect.

⁵ Positive predictive value (PPV) refers to the likelihood that the specific test result at issue is a true positive. *See* Lalkhen & McCluskey, *supra* note 4, at 221 ("The PPV of a test is a proportion that is useful to clinicians since it answers the question: 'How likely is it that this patient has the disease given that the test result is positive?'").

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at 911–15, *United States v. Baas*, No. 19-0377 (C.A.A.F. Dec. 27, 2020) (penetrating his own anus with a cucumber and a bottle of lubricant on August 22, 2015), and giving Appellant more insidious instructions to perform sexual acts on his son. While Appellant was sometimes hesitant to carry out Hailey’s instructions, he participated in her “game.”

For example, in a conversation on March 29, 2016, accompanied by a one-way live-streamed video call, Hailey directed Appellant to sodomize GB:

[Hailey:] lick his balls
his little balls
put him all in your mouth
balls and dick
. . . .
lick his butt a little
yes
yes
lay on you[r] back lay hi[m] on u
so u can lick his ass
and suck his dick a little
yes
. . . .
use yo[ur] finge[r a lit]tle
does he like that
show me
closer
. . . .
[put] lotion on yo[ur] dick
rub h[i]s dick too
with the l[o]tion
yes
on his ass a little
he li[k]es it
. . . .
slide your finge[r in] a [lit]tle

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....

use the tip of yo[ur] dick a little

just a little

u got him hard

....

[App.:] Oh my god lol

....

i kinda came

[Hailey:] I know

But not al[l the] way

The conduct continued for nearly ten more minutes, with Hailey directing Appellant to put lotion on his son and rub himself in various ways against his son, and “go in him a little.” These messages and the accompanying video stream lasted over forty-five minutes, including a brief interruption where the call ended and was restarted.

Appellant and Hailey engaged in another conversation spanning from late the night of May 2, 2016, to the early hours of May 3, 2016:

[May 2, 2016]

[Hailey:] u in a dirty mood tonight

after u eat

[App.:] Lol ain’t I always?

[Hailey:] yes

[App.:] Tell me what you’re thinking

[Hailey:] a little of [GB] then u cumming so good

[App.:] Tell me all about it babe

....

[May 3, 2016; approximately three hours later]

[Hailey:] do u have the lotion

[App.:] Yeah

[Hailey:] get in your shorts

....

take off the diaper

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kiss down him
down his chest
more
he loves it
his dick a little
. . . .
show all of him
get him very hard
show how hard he is
just the tip of it

After eleven minutes, the call was interrupted when Appellant's fellow marine came to his apartment and Appellant had to put GB to bed. Hailey repeatedly asked Appellant to wake GB, but Appellant declined:

[Hailey:] take [GB] with u
to your room
ok
[App.:] [GB] is asleep now
[Hailey:] I know put him in yo[ur] room
. . . .
check on him then move him
[App.:] He is asleep but if I pick him up
he will wake up
[Hailey:] move him slowly
try to ok
[App.:] No woman I'm not moving my sleeping
child.

On May 8, 2016, Hailey texted Appellant to remind him that they “never did get to finish up from the other night.” Appellant replied that they would have to proceed without GB because he was sleeping. Once again Hailey requested that Appellant wake GB, but Appellant declined. The two exchanged similar texts the following day, with Hailey explaining she had just wanted Appellant to put his “mouth on him a little but don't wake him up,” and Appellant responding

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that GB “sleeps on his belly and if I try to roll him over he will wake.”

But on May 15, 2016, GB was awake when Hailey texted Appellant. The two then began a one-way video call that lasted around thirty minutes, with a brief interruption when the call stopped and was restarted. During this call, Hailey again directed Appellant to sexually abuse his son. For example:

[Hailey:] try to get [your penis] in his mouth some
tel[l] him to open his mouth up wider
say open it big
put him on your chest
so you can suck him a little
....
rub his dick
then use your finger in his ass very tllly
slowly
suck him w[h]ile u do it
go slowly
not to[o] much
use yo[ur] mouth on him
....
put lotion on yo[ur]dick
yes
[p]ut his ass on yo[ur] dick
yes
go back and forth
yes
like t[ha]t
....
hold him on u
[App.:] Have to hurry
[Hailey:] tight
....

[App.:] Have to go

The conversation and video stream then ended abruptly. Judging from the chat history, this was the last time Appellant sexually abused GB at Hailey’s direction.

On June 6, Appellant stated that he would no longer carry out Hailey’s instructions on GB:

[Hailey:] do u want to cum . . . today

. . . .

and then with [GB] 2mrow

[App.:] No [GB] for a few weeks

[Hailey:] come on

just one more time

[App.:] No when I say something it’s for a reason

Appellant’s defense focused on two points: (1) that the Diatherix test was grossly unreliable and therefore GB’s test result was a false positive, and (2) that even if Appellant carried out the acts described in these chats, he did so not to GB, but to GB’s green teddy bear.

At closing, the parties focused mainly on the second point. The defense offered varying theories, each of which trial counsel disputed, to demonstrate that Appellant had not abused GB: the conversations were simply sexual fantasies, the acts were performed not on GB but on a teddy bear, the whole thing was a set up perpetrated by Hailey. Defense counsel also dedicated a large share of his closing to the Diatherix test result, emphasizing its unreliable nature. Trial counsel asserted that the test was reliable and that the positive result “corroborates the overwhelming digital forensic evidence that the government has presented in this case.” But he clarified that GB’s test result was neither dispositive of the gonorrhea diagnosis, nor necessary to establish Appellant’s guilt on the rape charges: “This test is nothing more than a screening test. It’s some evidence—some additional evidence for you to consider. And the case does not rise or fall on gonorrhea.”

The members found Appellant guilty on the charges related to the conduct on March 29, 2016, and May 15, 2016,

but found him not guilty of the specifications related to the conduct on May 2, 2016.

The NMCCA affirmed the lower court, ruling that the Diatherix lab report was not testimonial and that Appellant therefore was not denied his Sixth Amendment right to confrontation. *Baas*, 2019 CCA LEXIS 173, at *34, 2019 WL 1601912, at *10–11. The NMCCA also determined that the military judge correctly applied the *Daubert* factors in deciding whether to admit the Diatherix test and the related expert testimony. 2019 CCA LEXIS 173, at *34, 2019 WL 1601912, at *5–7.

II. Discussion

A. The Confrontation Clause

Appellant argues that the Diatherix test result was testimonial because (1) Dr. Kafer, the requesting physician, acted on behalf of law enforcement to obtain the test since social services—a part of law enforcement—had referred GB’s mother to her for testing; and (2) Diatherix must have known the testing of a rectal swab from a one-year-old for gonorrhea was part of a criminal investigation and was therefore intended for use at trial. We disagree.

“In all criminal prosecutions, the accused shall enjoy the right . . . to be confronted with the witnesses against him.” U.S. Const. amend. VI. This clause permits the admission of “testimonial statements of a witness absent from trial . . . only where the declarant is unavailable, and . . . the defendant has had a prior opportunity to cross-examine.” *Crawford v. Washington*, 541 U.S. 36, 59 (2004); see *United States v. Sweeney*, 70 M.J. 296, 301 (C.A.A.F. 2011). This Court reviews de novo whether statements are testimonial for purposes of the Sixth Amendment. *United States v. Squire*, 72 M.J. 285, 288 (C.A.A.F. 2013).

In determining whether a statement is testimonial, this Court asks “whether it would ‘be reasonably foreseeable to an objective person that the purpose of any individual statement . . . is evidentiary,’ considering the formality of the statement as well as the knowledge of the declarant.” *United States v. Katso*, 74 M.J. 273, 279 (C.A.A.F. 2015) (quoting *United States v. Tearman*, 72 M.J. 54, 58 (C.A.A.F.

2013)) (collecting cases). “In the end, the question is whether, in light of all the circumstances, viewed objectively, the ‘primary purpose’ of the [statement] was to ‘creat[e] an out-of-court substitute for trial testimony.’” *Ohio v. Clark*, 135 S. Ct. 2173, 2180 (2015) (second alteration in original) (quoting *Michigan v. Bryant*, 562 U.S. 344, 358 (2011)). The “statement” at issue is the lab report from Diatherix, and the declarant therefore is Diatherix and its employees who conducted the test. Thus, our focus in this inquiry here is on the purpose of the statement in the Diatherix test result, and not on the purpose others—such as the treating physician—may have had in facilitating that statement.⁶ See *Sweeney*, 70 M.J. at 302 (“[T]he focus has to be on the purpose of the statements in the drug testing report itself, rather than the initial purpose for the urine being collected and sent to the laboratory for testing.”).

Here, the totality of the circumstances shows that the primary purpose of the test was diagnostic and not evidentiary. Although it is true that law enforcement’s involvement in the process could change the analysis, see *United States v. Rankin*, 64 M.J. 348, 352 (C.A.A.F. 2007), there was no such involvement here. While Appellant seeks to cast Dr. Kafer as an agent of law enforcement, the evidence is to the contrary. Dr. Kafer assessed GB for child sexual abuse, but the sample was submitted to Diatherix to assess whether he had contracted a sexually transmitted infection in order to treat it. Tellingly, when Dr. Kafer received the lab results back from Diatherix on June 18, she arranged for a confirmatory test and treatment.

Although NCIS received the test results shortly after the test was run, SA Morgan testified at trial that NCIS had no

⁶ We recognize that we may consider the purpose non-declarants had in facilitating a statement when the declarant knows of that purpose. After all, “[f]ine distinctions based on the impetus behind the testing and the knowledge of those conducting laboratory tests” can be relevant in determining whether the declarant’s purpose in making a statement is evidentiary. *United States v. Blazier (Blazier I)*, 68 M.J. 439, 442 (C.A.A.F. 2010) (quoted in *Sweeney*, 70 M.J. at 302). The declarant had no such knowledge in this case.

interaction with Dr. Kafer at all.⁷ As in *Squire*, while Dr. Kafer was aware of the possible law enforcement related consequences of the exam and test results, she was acting as a medical provider, not as an arm of law enforcement. 72 M.J. at 290–91 (doctor’s “medical specialty and experience, his status as a mandatory reporter, and his completion of state mandated forms while conducting the examination” did not result in de facto law enforcement involvement).

Thus, any alleged law enforcement involvement in directing GB’s mother to Dr. Kafer had no effect on her primary purpose in ordering the test. Rather, the test was ordered from a private lab by a private physician who, upon receiving the results, prescribed a confirmatory test and treatment by another private facility. This is a far cry from the facts in *United States v. Gardinier*, 65 M.J. 60, 66 (C.A.A.F. 2007), where we found the victim’s statements to a sexual assault nurse examiner (SANE) testimonial because the SANE examined the victim several days after her initial medical examination and the sheriff’s office had arranged and paid for the SANE’s examination.

Further, in an apparent attempt to demonstrate that NCIS had not followed the proper procedure to get a trustworthy test result for GB, during its cross-examination of the NCIS agent, defense counsel made much of the fact that Dr. Kafer’s examination was medical and not forensic:

[DC:] There was no forensic examination?

[NCIS:] There was an examination by a licensed medical practitioner.

[DC:] Right. That would be a medical examination, correct?

[NCIS:] That was an examination. Yes.

⁷ There is some dispute as to whether GB’s mother brought him to Dr. Kafer at social services’ direction. Even if social services had directed GB’s mother to take him to Dr. Kafer, the doctor’s actions—discussed below—show that her primary concern was GB’s medical treatment, and not whatever interest may have motivated social services.

In light of the record, defense counsel’s characterization of Dr. Kafer’s examination as medical—not forensic—seems apt.

Appellant also argues that because the gonorrhea swab came from an infant, the people who ordered and administered the test must have been aware that the results would likely be used in a subsequent criminal prosecution and their primary purpose was therefore to create an “out-of-court substitute for trial testimony.” *Clark*, 135 S. Ct. at 2180. First, Diatherix expressly refuted that assertion through the Article 39(a), UCMJ, testimony of Dr. Stalons. Second, even if Diatherix knew that the test result might be used in court, “that knowledge alone does not transform what would otherwise be a statement for the purpose of medical treatment into a testimonial statement,” *Squire*, 72 M.J. at 290, one created as an “out-of-court substitute for trial testimony.” *Clark*, 135 S. Ct. at 2180.

Finally, as the CCA noted, the test result itself lacks any indicia of the formality or solemnity characteristic of testimonial statements:

[T]here is no sworn attestation on the Diatherix lab report. Nor is there a statement on the lab report indicating the tests results were intended for evidentiary purposes. In fact, the Diatherix lab report contains no signatures, was not accompanied by any chain of custody documentation, and merely consists of a single page identifying the patient’s name, the “ordering physician,” the date the specimen was collected, received, and reported, the organisms tested for, and an “X” in either a column labeled “DETECTED” or “NOT DETECTED,” for each organism.

Baas, 2019 CCA LEXIS 173, at *33, 2019 WL 1601912, at *11; *cf. Tearman*, 72 M.J. at 61 (internal documents “lack[ed] any indicia of formality or solemnity that, if present, would suggest an evidentiary purpose”); *see contra Melendez-Diaz v. Massachusetts*, 557 U.S. 305, 307 (2009) (affidavit-like “certificates of analysis” created to serve as evidence at trial were testimonial). This lack of formality is likely due, in part, to the fact that Diatherix does not typically do forensic testing and did not know the test would be used in court.

The surrounding circumstances indicate that Diatherix’s primary purpose in testing the sample was diagnostic and not evidentiary. Therefore, the Diatherix test result was not testimonial and its admission did not violate Appellant’s Sixth Amendment right to confrontation.

B. *Daubert*

Appellant argues that the military judge abused his discretion in admitting the Diatherix test result, based on an erroneous application of the factors in *Daubert*, 509 U.S. at 593–94. We do not reach the question whether the military judge misapplied these factors because, even assuming that he did, Appellant was not prejudiced by the test’s admission.

The parties agree that the claimed *Daubert* error is non-constitutional in nature. Under Article 59(a), UCMJ, the “finding or sentence of a court-martial may not be held incorrect on the ground of an error of law unless the error materially prejudices the substantial rights of the accused.” 10 U.S.C. § 859(a) (2012). “For nonconstitutional evidentiary errors, the test for prejudice ‘is whether the error had a substantial influence on the findings.’” *United States v. Kohlbek*, 78 M.J. 326, 334 (C.A.A.F. 2019) (quoting *United States v. Fetrow*, 76 M.J. 181, 187 (C.A.A.F. 2017)). The Government bears the burden of demonstrating that the admitted evidence was not prejudicial. *United States v. Flesher*, 73 M.J. 303, 318 (C.A.A.F. 2014). “In conducting the prejudice analysis, this Court weighs: (1) the strength of the Government’s case, (2) the strength of the defense case, (3) the materiality of the evidence in question, and (4) the quality of the evidence in question.” *Kohlbek*, 78 M.J. at 334 (citations omitted) (internal quotation marks omitted). Based on the entire record, *United States v. Gunkle*, 55 M.J. 26, 30 (C.A.A.F. 2001), we conclude that the admission of the Diatherix test result did not have a “substantial influence on the findings.”

1. The Strength of the Government’s Case

The Government’s case was strong. Hailey’s instructions to Appellant during the Skype chat served for members as a contemporaneous narration of the live-streamed Skype video she viewed. *See supra* pp. 6–9. Nor did Appellant claim, in his interviews with NCIS or otherwise, that the messages

were either altered or otherwise not representative of his conversations with Hailey. Appellant and Hailey clearly coordinated the Skype chats involving GB at times he would have access to GB, and on several occasions Appellant explained to her that he could not include GB because the child was with his mother. The lurid and specific directions, the descriptive details, the remarks regarding the effects of the actions upon Appellant's and GB's anatomy, Appellant's expression of sexual release, and the length of time over which the admitted chats occurred alone provided sufficient evidence for the members to find Appellant guilty.

Further, Appellant himself admitted to NCIS that he performed the actions described in the messages, albeit that he did so not on his son, but on GB's teddy bear—whom he claimed the two referred to using GB's name, though everyone else knew the bear as "Scout." Appellant gave this same implausible explanation to social services and his roommate's boyfriend. But the Government's witnesses and admitted evidence were strong proof that the victim of Appellant's actions was GB and not his teddy bear.

For example, Appellant sent pictures of GB in conjunction with the exchanges to show Hailey that GB would be present for a video call. When Hailey repeatedly demanded that Appellant wake GB to perform sexual acts on him, Appellant responded: "No woman I'm not moving *my sleeping child*." Days later, when Hailey requested that Appellant wake GB "to finish up from the other night," Appellant declined because GB "will be mad because he is hungry." Taking these statements at face value, it is doubtful that Appellant made them out of concern for a teddy bear's sleep, hunger, or anger. In addition, there are several points during the calls when Hailey described GB's physical reactions to Appellant's abuse, and instructed Appellant to adjust the camera so that she could see GB better and not miss Appellant carrying out her direction, for example: "move the cam[era] over so I can see"; "move the cam[era] down some on his hole"; "lower[]the cam[era] a [lit]tle . . . show between his legs."

Nor could the Government find any physical evidence to corroborate Appellant's explanation. NCIS sent the toy to the U.S. Army Criminal Investigative Laboratory (USACIL)

for testing because some of the messages indicated that Appellant had ejaculated on his son's stomach. Forensic testing revealed no semen on the teddy bear, and no evidence that it had been washed. Moreover, as the NCIS agent noted during Appellant's interview: "Teddy bear's [sic] mouths can't fit a penis or a ball or a testicle, okay? Teddy bear's [sic] don't have penises that you can put your mouth on, or a penis that you can stroke, or, you know, they don't have any of that."

Finally, one Government witness testified that Appellant was "frantic" when he learned his phone was in others' hands. Appellant's roommate testified that Appellant went to his girlfriend's house and "bang[ed] on the door asking where his phone was. . . . The tone of his voice sounded very frantic, concerned." The members could very well have attributed this reaction to a concern that the missing phone contained evidence of wrongdoing.

In all, the comprehensive digital forensic evidence, the testimony of the Government's witnesses, and Appellant's own statements to NCIS and others—which together rendered Appellant's "teddy bear" explanation improbable—made the Government's case strong even without GB's test result.

2. The Strength of the Defense Case

Conversely, the Appellant's case at trial was weak. His principal defense was that he had performed the described acts on GB's green teddy bear and that any reference to GB in the messages was in fact to that teddy bear—a bear whose actual name was Scout, the name emblazoned on its chest. As discussed above, *supra* pp. 16–17, this defense was improbable. Appellant's explanation of Hailey's instructions strains credulity: descriptions of the victim's concerns of sleep and hunger, together with a lack of any physical evidence that a teddy bear was the object of Hailey's instructions, belie his defense. As a result, the defense's case was weak. *Cf. United States v. Hall*, 66 M.J. 53, 55 (C.A.A.F. 2008) (describing the appellant's defense as weak because the alternative theories advanced at trial were implausible).

3. The Materiality and Quality of the Evidence in Question

“When assessing the materiality and quality of the evidence, this Court considers the particular factual circumstances of each case.” *United States v. Washington*, __ M.J. __ (8) (C.A.A.F. 2020) (listing considerations this Court has used in evaluating these factors). On the one hand, the Diatherix test result, offered in conjunction with Appellant’s positive test result for gonorrhea, was physical evidence corroborating the rape specifications. “Standing alone, such [evidence] might well have been determinative.” *Hall*, 66 M.J. at 56.

The vast majority of the Government’s case-in-chief, though, focused not on gonorrhea, but on Appellant’s statements to NCIS and others regarding the green teddy bear defense, the USACIL tests for semen on the green teddy bear, and the digital forensic analysis that yielded the texts that revealed the conduct Appellant engaged in at Hailey’s direction. Further, the materiality of the Diatherix test was significantly diminished at trial. The defense expert testified that Diatherix’s failure to follow its own laboratory procedures, the clinic’s inability to confirm the positive result with a culture and properly preserve the specimen, and the unreliable nature of the Diatherix test when used for samples from prepubescent boys made this “one of the worst managed cases that [she had] dealt with.” She added that because of this low prevalence of gonorrhea among prepubescent boys, the test’s “positive predictive value was essentially zero,” meaning that “the test was useless in [GB’s] situation.” The members sought clarification on this point through two different questions to the defense expert. The first asked “At what prevalence level is the [positive predictive value] considered too low for the results of a test on an individual to be considered reliable?” In response, Dr. Hammerschlag opined, *inter alia*, that the NAAT “in this situation—especially since it’s not FDA cleared, and we have no idea about its performance—should not be used.” Another member then asked: “Is it your opinion that the results of a NAAT for rectal swabs in young males are invalid due to a lack of data when used for identification of STIs?” Dr. Hammerschlag answered: “I wouldn’t exactly use the word ‘invalid.’ I think it’s more interpreted with caution. That

they more likely frequently may be invalid; and that’s why we have to do confirmation.” Both members responded in the affirmative when the military judge asked whether these responses answered their questions. Based on these questions and answers, it is likely that the defense’s attack on the reliability of the test influenced the weight the members gave that piece of evidence in their deliberations.⁸

The Government’s own expert, Dr. Hobbs, readily agreed that the test sample was mismanaged, that the test result was not reliable in children, that it “was not appropriate to use this test without confirmatory testing,” and, damning with faint praise only that she “found a reasonable chance that the positive test in this case might represent a true positive.” Dr. Hobbs’s testimony on cross-examination revealed a host of concerns she harbored as to the test result in this case. First, Diatherix failed to follow its own protocols when it accepted the rectal sample without prior authorization, conducted a test on an alleged sexual abuse victim, and utilized the test with a child. Second, she was concerned that none of the CDC guidelines were followed and appeared unaware of the fact that the test had not been subject to peer review. And, finally, she testified that the potential for cross-reactivity—that the test could identify other bacteria as gonorrhea—was “a significant limitation for all NAATs,” especially for rectal samples from children. Thus, the Government’s own expert expressed serious reservations about the reliability of the Diatherix test result.

Further, although the Government at closing argued that the test result corroborated the digital forensic evidence, it clearly also argued that the test result was not dispositive of any issue—whether GB in fact had gonorrhea, whether Appellant raped GB, or whether Appellant transmitted gonorrhea to GB. In fact, the Government emphasized that the test result itself was only a presumptive positive—one that required confirmatory testing, which did not take place. The Government’s sparing use of the test result in its opening

⁸ None of this is to say that the military judge erred when he admitted the test result, however. As noted above, *supra* p. 15, we are agnostic on that issue.

and closing statements shows that trial counsel understood that evidence was not as probative of Appellant's guilt as were the messages with Hailey or his admission to NCIS. *Cf. United States v. Brooks*, 26 M.J. 28, 29 (C.M.A. 1988) (finding harmless error in part because the "trial counsel did not refer to the objectionable evidence in his argument"). We are persuaded that the non-conclusive test result, whose reliability was questioned by expert witnesses for both parties, was not qualitatively significant to the members' findings of guilt.

Appellant nonetheless suggests that the members' mixed verdict shows the admission of the test result was prejudicial. In his view, acquittal of the specifications alleged as on or about May 2, 2016, show that the members viewed the positive test result—determined from a rectal sample—as the key piece of evidence because this was the only conversation in which Appellant and Hailey did not discuss anal penetration of GB by Appellant. We disagree.

As an initial matter, the specification charged conduct on or about May 2. No "conduct" occurred until May 3, and neither counsel requested, nor did the military judge offer, an instruction that as a matter of law "on or about" could include May 3. More importantly, even if the members considered the May 3 conduct, that conduct was quantitatively and qualitatively different than that on March 29 and May 15. First, the portion of the Skype video call describing conduct on May 3 lasted eleven minutes, as compared to forty-five minutes on March 29, and twenty-five minutes on May 15. Second, qualitatively, the conduct on May 3 did not clearly and unequivocally describe *rape* of a child, while the conduct on March 29 and May 15 did.

The military judge instructed the members that in order to find Appellant guilty of rape of a child, they had to be convinced beyond a reasonable doubt that Appellant "committed a sexual act upon GB." "Sexual act" was defined as "the *penetration*, however slight, of the . . . anus or mouth by the penis," or by any other body part or object if done with the intent to "arouse or gratify the sexual desire of any person." (emphasis added). In order to find Appellant guilty of the pornography specifications, the members had to find that Appellant produced and distributed "a video of a minor

engaging in sexually explicit conduct.” The military judge defined “sexually explicit conduct” as, *inter alia*, “actual or simulated . . . sexual intercourse or sodomy, including genital-genital, oral-genital, anal-genital, or oral-anal” sodomy.

The trial counsel in his closing argued that “on May 2, 2016 [Appellant] suck[ed] his son’s penis.” Although Hailey directed Appellant to “kiss down him . . . his dick a little,” she did not clearly direct him in that conversation to penetrate GB’s mouth with his penis—in stark contrast to the clear directions on March 29, 2016, and May 15, 2016, *see supra* pp. 6–7, 9, to sodomize his son both orally and anally. Similarly, a close reading of that conversation could lead the members to conclude that Appellant did not produce or distribute child pornography, as defined in the military judge’s instructions, because it did not unequivocally describe penetration of any kind.

In sum, the members were directed to find Appellant guilty only if they were convinced of guilt beyond a reasonable doubt. For all the reasons stated above, we disagree that the test result, obtained from GB’s rectal sample, was the substantial reason the members found Appellant guilty of the specifications related to March 29 and May 15, and not guilty of the specifications for conduct on May 2. We find it far more likely that the members listened carefully to the military judge’s instructions on these charges, weighed the evidence, and applied the definitions precisely in their deliberations.

Although the admission of the test result may have had some influence on the findings, we are persuaded that, based on the entire record, it did not have a “substantial influence on the findings.” *Kohlbek*, 78 M.J. at 334. Even if the military judge erred in admitting the test result, therefore, Appellant suffered no prejudice.

III. Conclusion

The decision of the United States Navy-Marine Corps Court of Criminal Appeals is affirmed.

Judge MAGGS, concurring in part and concurring in the judgment.

I concur with the Court's opinion except part II.B., and I concur in the Court's judgment. Appellant asserts before this Court, as he did before the United States Navy-Marine Corps Court of Criminal Appeals (NMCCA), that the military judge abused his discretion in admitting a laboratory test showing that Appellant's infant son had gonorrhea. He contends that the military judge either misapplied or failed to consider six factors identified in *Daubert v. Merrell Dow Pharms., Inc.*, 509 U.S. 579, 593–95 (1993), for determining whether expert testimony and scientific evidence are sufficiently reliable and relevant to be admitted.¹ The NMCCA disagreed, rejecting Appellant's contentions point by point. I agree with the NMCCA's analysis. I would affirm its judgment on the basis that the evidence was properly admitted under *Daubert*, rather than on the alternative grounds now adopted by the Court.²

¹ We have described the *Daubert* factors in slightly different ways in our cases. Compare *United States v. Henning*, 75 M.J. 187, 191 n.15 (C.A.A.F. 2016), with *United States v. Sanchez*, 65 M.J. 145, 149 (C.A.A.F. 2007). The *Daubert* factors challenged in this case are: (1) whether the theory or technique can be (and has been) tested; (2) whether the theory or technique has been subjected to peer review and publication; (3) the known or potential error rate; (4) the existence and maintenance of standards controlling the technique's operation; (5) the degree of acceptance within the relevant scientific community; and (6) whether the probative value of the evidence is substantially outweighed by the danger of unfair prejudice, confusion of the issues, or misleading the jury. See *Daubert*, 509 U.S. at 593–95 (discussing these subjects). Military judges also must consider additional factors identified in *United States v. Houser*, 36 M.J. 392 (C.M.A. 1993). In this case, however, Appellant has generally limited his arguments to the *Daubert* factors listed above.

² The Court assumes (without deciding) that the military judge abused his discretion by admitting the evidence in question but concludes that any error was harmless. I do not join the Court on this point because if admission of the evidence was in error, I do not believe that the Government could meet its burden of showing that the error did not have a substantial influence on the findings or the sentence. See *United States v. Young*, 55 M.J. 193, 197

I. The *Daubert* Factors

The Supreme Court held in *Daubert* that a trial judge has a “gatekeeping role,” requiring the judge to “ensure that any and all scientific testimony or evidence admitted is not only relevant, but reliable.” *Id.* at 589, 597. The Supreme Court recognized that “[m]any factors will bear on the inquiry” of whether scientific evidence is reliable. *Id.* at 593. The Supreme Court discussed several of these factors without “presum[ing] to set out a definitive checklist or test.” *Id.* When an appellant challenges admission of scientific evidence, this Court first determines de novo whether a military judge fulfilled this gatekeeping function. *United States v. Flesher*, 73 M.J. 303, 311 (C.A.A.F. 2014). If “the *Daubert* framework is properly followed, this court ‘will not overturn the ruling unless it is manifestly erroneous.’” *Henning*, 75 M.J. at 191 (quoting *United States v. Griffin*, 50 M.J. 278, 284 (C.A.A.F. 1999)).

In this case, the military judge conducted a *Daubert* hearing and issued written findings of fact and conclusions of law. In his ruling, the military judge properly identified the relevant rules of evidence, the *Houser* factors, and the *Daubert* factors, and discussed the application of these rules and factors to the facts of the case. Appellant argues that the military judge did not specifically discuss all of the *Daubert* factors, but the Supreme Court and this Court have made clear that the inquiry is flexible, not mandating consideration of each factor. *Daubert*, 509 U.S. at 594; *Kumho*

(C.A.A.F. 2001) (considering whether erroneously admitted evidence had a substantial influence on the findings and sentence). The laboratory test was the only physical evidence to corroborate the Government’s argument, based on the Skype messages, that Appellant penetrated his infant son’s anus with his penis. These messages consisted almost entirely of instructions from “Hailey Burtnett” rather than descriptions of what she saw or admissions by Appellant regarding what he did, and were ambiguous regarding the specific issue of whether Appellant penetrated his son’s anus with his penis on the dates in question. In addition, the evidence that Appellant transmitted gonorrhea to his infant son while raping him likely had a substantial influence on Appellant’s sentence.

Tire Co. v. Carmichael, 526 U.S. 137, 141 (1999); *Sanchez*, 65 M.J. at 149. Accordingly, I agree with the NMCCA that the military judge understood and fulfilled his gatekeeping role.

The issue then becomes whether the military judge’s ruling was “manifestly erroneous.” *Henning*, 75 M.J. at 191 (internal quotation marks omitted) (quoting *Griffin*, 50 M.J. at 284). Appellant makes six challenges to the military judge’s application of the *Daubert* factors. Considering each of these challenges in turn, I agree with the NMCCA’s conclusion that the military judge’s rulings were not manifestly erroneous.

Appellant’s first challenge concerns the *Daubert* factor requiring trial judges to consider “whether the theory or technique . . . can be (and has been) tested.” 509 U.S. at 593. The military judge concluded that this factor favored admission because the laboratory test had been confirmed by both a validation study and by the results of blind samples sent to the laboratory. Appellant does not dispute these facts but contends that the laboratory test had never been confirmed using child rectal samples. The military judge recognized this distinction but reasoned that the validation study and the results of the blind samples confirmed “the general scientific principles behind the test” even if the data were not exactly the same. The NMCCA agreed with the military judge on this point, and so do I. Discussing the *Daubert* factors in *General Electric Co. v. Joiner*, 522 U.S. 136, 146 (1997), the Supreme Court recognized that experts “commonly extrapolate from existing data” and that this practice is acceptable unless “there is simply too great an analytical gap between the data and the opinion proffered.” Appellant has not convincingly explained why any gap is too great in this case. His principal arguments are only that one expert “noted rectal gonorrhea creates unique issues for gonorrhea tests” and that the Centers for Disease Control and Prevention (CDC) require confirmatory testing by culture for child rectal samples.

The second *Daubert* factor challenged by Appellant is “whether the theory or technique has been subjected to peer review and publication.” 509 U.S. at 593. The military judge

concluded that this factor favored admission. Even though the specific test used in this case has not been subjected to peer review, the military judge found that other tests using similar science have been. Appellant, however, argues that peer review of similar tests is not sufficient. He asserts that “peer review must be specific to the particular test used by the laboratory.” Like the NMCCA, I disagree with Appellant. Such exactness is not required. The Supreme Court has explained that *Daubert’s* “list of factors was meant to be helpful, not definitive” and that it “might not be surprising in a particular case, for example, that a claim made by a scientific witness has never been the subject of peer review, for the particular application at issue may never previously have interested any scientist.” *Kumho Tire Co.*, 526 U.S. at 151. Given that peer review is not required at all, the military judge did not commit manifest error in concluding that peer review of tests that rely on similar science weighed in favor of admission.

The third *Daubert* factor challenged by Appellant is the “known or potential error rate.” 509 U.S. at 594. As this factor was perhaps the most disputed at trial, it is worth quoting the relevant portion of the military judge’s written findings of fact and conclusions of law. The military judge assessed what three expert witnesses said about the laboratory test, which had been conducted by Diatherix Laboratories Inc., asserting:

[T]he error rate . . . is acceptable. Dr. Stalons testified Diatherix had a 100% accuracy rate in testing for gonorrhea. Dr. Hobbs testified that Diatherix’s test produced scientifically valid results. However, according to both Dr. Hobbs and Dr. Hammerschlag, test results in the pediatric population are considered less reliable. Dr. Hammerschlag testified that the PPV for this test as used was either 50% or lower, or 30%.³ The court finds that the likelihood of a false positive associated with the testing population does not undermine the scien-

³ PPV stands for positive predictive value. In a footnote on this point, the military judge explained: “A PPV of 30% means there is a 30% chance the test is correct (i.e. 70% chance it is incorrect).”

tific principles upon which the test is based. It was clear from Dr. Hobbs and Hammerschlag that there is a potential for a false positive. However, it was not clear what the actual likelihood might be. Especially considering that Dr. Hobbs did not attach any quantitative value to the possibility and Dr. Hammerschlag's inconsistent testimony regarding the PPV.

In challenging the military judge's conclusions, Appellant asserts that to be reliable, a test "must at least establish that a test result is at least more likely than not to be correct." He argues that in assessing the reliability of the laboratory test, the military judge erred because he relied on the accuracy of the test rather than the positive predictive value (PPV) of the test. He asserts that the test's PPV was so low in this case that the test did not meet the minimum requirement for reliability. He explains that "Dr. Hammerschlag testified that the 'positive predictive value' was under 50%, meaning that any positive result was no more accurate than a coin flip."

Appellant's argument ignores the military judge's contrary findings and conclusions. As the quotation above shows, the military judge considered both the test's accuracy and its PPV. Although Appellant draws on Dr. Hammerschlag's testimony, the military judge found this expert witness was inconsistent and was contradicted by another expert witness. I assume that a test with a known error rate greater than 50% is not reliable. But the military judge did not find that this test had a known error rate that was greater than 50%. Instead, the military judge found that the actual rate of false positives "was not clear." This finding of fact was not clearly erroneous. And we have repeatedly held that an unknown error rate does not automatically make a scientific test inadmissible. *See Sanchez*, 65 M.J. at 151 ("Nothing in the precedents of the Supreme Court or this Court requires that a military judge either exclude or admit expert testimony because it is based in part on an interpretation of facts for which there is no known error rate or where experts in the field differ in whether to give, and if so how much, weight to a particular fact in deriving an opinion."); *United States v. Youngberg*, 43 M.J. 379, 386 (C.A.A.F. 1995) (finding that military judge did not commit

plain error in admitting scientific evidence, despite the appellant's complaint that there was no evidence of error rates); *United States v. Bush*, 47 M.J. 305, 312 (C.A.A.F. 1997) (finding that military judge did not abuse his discretion in admitting hair evidence even where there was no evidence showing error rate for hair-analysis procedure). Based on all the testimony considered, the military judge's conclusion that the error rate was acceptable was not manifestly erroneous.

The fourth *Daubert* factor challenged by Appellant is "the existence and maintenance of standards controlling the technique's operation." 509 U.S. at 594. The military judge cited this factor but did not discuss it. Appellant now argues that the testing laboratory failed to follow two of its own policies. One policy was that users generally must obtain pre-approval before submitting anything other than an "endocervical swab, vaginal swab, ThinPrep Pap solution, urethral swab and urine" to be tested. Under this policy, the physician who submitted the rectal sample to the laboratory should have obtained preapproval but he apparently did not. Another policy was that the laboratory generally did not conduct tests for the evaluation of suspected sexual abuse.

The NMCCA rejected Appellant's concerns about these policies, asserting that the military judge was not required to decide whether every *Daubert* factor was satisfied. I agree with this point, especially because it is not clear that Appellant challenged the fourth *Daubert* factor before the military judge. Appellant also has not satisfactorily explained why a violation of the first policy would undermine the reliability of the laboratory test. Nor has Appellant established a violation of the second policy. The test in fact was done for diagnostic purposes, not for the evaluation of suspected sexual abuse.

The fifth *Daubert* factor challenged by Appellant is the "degree of acceptance within [the relevant scientific community]." 509 U.S. at 594 (internal quotation marks omitted) (citation omitted). The military judge found that this factor favored admission of the evidence because the CDC generally allow tests based on similar science to be used for detecting sexually transmitted infections. Appellant, however, ar-

gues that using this kind of test “on prepubescent child swabs and without confirmatory testing is not accepted in the scientific community.” The distinction that Appellant identifies is correct but Appellant has offered no persuasive reasons that this distinction makes the test unreliable. In addition, Appellant is again insisting on more than what the Supreme Court has required. The Supreme Court made clear in *Daubert* that a “‘reliability assessment does not require, although it does permit, explicit identification of a relevant scientific community and an express determination of a particular degree of acceptance within that community.’” *Id.* (quoting *United States v. Downing*, 753 F.2d 1224, 1238 (3d Cir. 1985)).

The sixth *Daubert* factor challenged by Appellant is whether the “probative value [of the evidence] is substantially outweighed by the danger of unfair prejudice, confusion of the issues, or misleading the jury.” *Id.* at 595 (internal quotation marks omitted) (citation omitted). This factor comes from Federal Rule of Evidence 403, which corresponds to Military Rule of Evidence 403. *Id.* The military judge considered this issue carefully. He explained on the record his conclusion that “the test results serve to corroborate the allegations that the accused sexually assaulted his son.” He concluded that this probative value substantially outweighed any unfair prejudicial effect, explaining that Appellant could use his expert witnesses and cross-examination to ensure that the members gave proper weight to the test results. Although Appellant disagrees, this is the kind of decision for which military judges are entitled to considerable deference when they explain their reasoning. I agree with the NMCCA that the military judge did not commit manifest error on this point.

II. Conclusion

The Supreme Court has explained that the objective of *Daubert* is “to make certain that an expert, whether basing testimony upon professional studies or personal experience, employs in the courtroom the same level of intellectual rigor that characterizes the practice of an expert in the relevant field.” *Kumho Tire Co.*, 526 U.S. at 152. That is what happened in this case. The Government sought to introduce

nothing more than the results of a laboratory test that were actually used and relied on by medical professionals to diagnose a child so that he could receive appropriate treatment.

The Supreme Court in *Daubert* did not describe an admissibility test that is so precise and technical that any gap, conflict, or ambiguity that arises when considering the various factors requires exclusion of the evidence. The Supreme Court also did not describe a test requiring every decision by a trial judge to be scrutinized in all its minutiae. On the contrary, the Supreme Court has emphasized that “the trial judge must have considerable leeway in deciding in a particular case how to go about determining whether particular expert testimony is reliable.” *Id.* And while the military judge has this flexibility in performing his gatekeeping function, if the judge decides to admit scientific evidence, counsel remain free to challenge its weight—as Appellant’s attorneys ably did in this case. *See Daubert*, 509 U.S. at 596 (“Vigorous cross-examination, presentation of contrary evidence, and careful instruction on the burden of proof are the traditional and appropriate means of attacking shaky but admissible evidence.”).

In this case, the military judge responsibly considered the *Daubert* factors before determining that the test results that the victim’s physician had actually relied on were reliable. For all the reasons above, the military judge performed his gatekeeping function and did not make any manifest error.