UNITED STATES DISTRICT COURT

NORTHERN DISTRICT OF CALIFORNIA

SAN JOSE DIVISION

SYNTHES USA, LLC (f/k/a SYNTHES (U.S.A.)); SYNTHES USA SALES, LLC; and SYNTHES, INC., Plaintiffs, v. SPINAL KINETICS, INC., Defendant.	CASE NO. 5:09-cv-01201 RMW **ORDER RE POST TRIAL MOTIONS**

In this patent infringement action, a jury found that defendant Spinal Kinetics' ("SK") M6-C and M6-L devices (collectively the "M-6 devices" or the "accused devices") do not infringe plaintiff Synthes USA, LLC's ("Synthes") United States Patent No. 7,429,270 ("'270 Patent"). The jury also found the claims-at-issue invalid for lack of a supporting written description.

The '270 patent is directed to an intervertebral implant. More specifically, the patent describes a prosthetic device designed to replace a diseased or damaged disc located between adjacent vertebrae, i.e. an "artificial disc." Synthes does not practice an invention embodying the '270 patent, but its parent company sells a product that competes with SK's M-6 devices. The application for the '270 patent was filed April 14, 2003 and the asserted claims 29, 30 and 31 were added in 2008, shortly before Synthes filed suit.

Now before the court are: (1) Synthes' motion for a judgment as a matter of law ("JMOL") or new trial as to literal infringement; (2) Synthes' motion for a JMOL or new trial as to invalidity; (3) Synthes' motion for a new trial on the doctrine of equivalents; (4) SK's JMOL motion on the doctrine of equivalents; (5) SK's JMOL motion on damages; and (6) SK's motion for attorneys' fees. The court has heard the arguments of the parties and considered the papers submitted in support of the motions. For the reasons set forth below, the court denies all of the pending motions with the exception SK's motion for a JMOL on the doctrine of equivalents.

I. DISCUSSION

In order to grant a renewed motion for judgment as a matter of law under Fed. R. Civ. P. 50(b), the court must find that "the evidence, construed in the light most favorable to the non-moving party, permits only one reasonable conclusion, and that conclusion is contrary to the jury's." *Callicrate v. Wadsworth Mfg.*, 427 F.3d 1361, 1366 (Fed. Cir. 2005) (quoting *Pavao v. Pagay*, 307 F.3d 915, 918 (9th Cir. 2002). A party seeking JMOL must show that the verdict is not supported by "substantial evidence," meaning "relevant evidence that a reasonable mind would accept as adequate to support a conclusion." *Callicrate*, 427 F.3d at 1366 (citing *Gillette v. Delmore*, 979 F.2d 1342, 1346 (9th Cir. 1992)).

Under Rule 59, "the trial court may grant a new trial, even though the verdict is supported by substantial evidence, if "the verdict is contrary to the clear weight of the evidence, or is based upon evidence which is false, or to prevent, in the sound discretion of the trial court, a miscarriage of justice." *Wordtech Sys. v. Integrated Networks Solutions, Inc.*, 609 F.3d 1308, 1313 (Fed. Cir. 2010) (quoting *United States v. 4.0 Acres of Land*, 175 F.3d 1133, 1139 (9th Cir. 1999)).

A. Synthes' Motion for a JMOL or New Trial as to Literal Infringement

Synthes' attack on the jury's finding that the M-6 devices do not infringe the '270 patent focuses on three disputed limitations: (1) "joined;" (2) "fiber system;" and (3) "substantially cylindrical." With respect to each limitation, Synthes argues that SK either failed to rebut credible evidence of infringement or impermissibly attempted to narrow or contradict the court's claim construction. According to Synthes, absent such improper tactics, the evidence "permits but one correct conclusion: that [the M-6 devices] infringe the '270 patent." Dkt. No. 533 at 1. Synthes

argues that it is entitled to a JMOL on infringement, or in the alternative, that SK's alleged misconduct warrants a new trial.

1. "Joined"

The court construed the term "wherein the fiber system … is at least partially received within the plurality of openings formed in the third and fourth plates so that the fiber system is joined to the third and fourth plates" to mean "wherein at least a portion of the fiber system is taken into or passed through the openings formed on the third and fourth plates so that the fiber system is anchored to the third and fourth plates." Dkt. No. 84 at 14. In its claim construction order, the court made clear that the patent required only that "the fiber system is joined, not each individual fiber." *Id.* at 15. The court further found that Claim 29 "contains no requirement limiting the manner in which the fiber system is anchored or fastened to the plates." *Id.* The court later clarified that it understood the terms "joined" and "anchored" to mean the same thing. *See* Tr. at 2058. No party requested a further construction of the term "anchored," and the court did not provide one.

At trial, Synthes' expert Dr. Hayes testified that the M-6 fiber system is "threaded through the holes [in the third and fourth plates] … under tension when tying a knot in a very organized way" such that the system "connects those two plates together … in a very specific way related to the court's claim construction." Tr. at 1124. He further stated that the fiber system is "anchor[ed] … to the two inner plates so that it can accomplish this process of gradually limiting the motion of the body." *Id.* at 1096.

During SK's case-in-chief, SK employee Mr. Koske demonstrated that the M-6 fiber system could be removed from the device by untying the knot in the fiber and unwinding it from the end plates. Tr. at 1985. Mr. Koske testified that in his opinion, the fiber system was not "anchored" to the endplates because it "can be removed readily." *Id.* at 1989.

Before SK put on the testimony of its expert, Dr. Levenston, Synthes expressed concern that he intended to "basically construe" the term "anchored" before the jury. Tr. at 2050. Specifically, Synthes complained that Dr. Levenston planned to testify that anchoring of the fiber system required at least one fiber strand to be anchored to the plates. *Id.* at 2056-57. However,

Synthes did not request an additional construction, indicating that "the court has provided sufficient claim constructions for the jury to resolve this issue." *Id.* at 2051. The court clarified that "each individual fiber strand does not necessarily have to be joined, but the system has to be in some way joined. So you could join the system and it might be, depending upon the facts, that one fiber joined the system, it seems to me that it's probably doubtful, but that there has got to be a joinder of the fiber system, namely, a collection of fiber strands, to the third and fourth plates." *Id.* at 2061. Synthes then acknowledged that "this is a subtle issue" and agreed to "take it up question by question." *Id.*

Dr. Levenston proceeded to testify as follows, without objection from Synthes:

> Q: DR. LEVENSTON, LET'S MOVE ON TO A DIFFERENT TOPIC, AND THAT IS ANCHORING, WHETHER THE FIBER SYSTEM IS ANCHORED TO THE ENDPLATES … CAN YOU LEAD US THROUGH THIS AND GIVE US A SUMMARY OF YOUR VIEWS AND THEN WE'LL TALK ABOUT THEM JUST A BIT.
>
> A: CERTAINLY. SO WE HAVE DISCUSSED THE ISSUE OF ANCHORING OF THE FIBER SYSTEM. THE FIBER SYSTEM CANNOT BE ANCHORED TO THE ENDPLATES IF NO PART OF THE FIBER SYSTEM IS ANCHORED TO THE ENDPLATES. WE SHOULD HAVE AT LEAST ONE STRAND OF THE FIBER SYSTEM THAT IS ANCHORED IF WE WANT TO DESCRIBE THE FIBER SYSTEM AS BEING ANCHORED. TO A PERSON OF ORDINARY SKILL IN THE ART, THE TERM "ANCHORED" MEANS THAT SOMETHING IS ATTACHED. EXAMPLES INCLUDE CLAMPING, ADHERING, GLUING, WELDING, BUT IT HAS TO BE ATTACHED IN A WAY THAT DOES NOT ALLOW THE THING BEING ANCHORED TO SLIP. THIS IS CONSISTENT WITH THE USE – WITH THE LANGUAGE OF THE '270 PATENT AND IT'S CONSISTENT WITH THE ORDINARY MEANING OF "ANCHORED" TO ONE OF ORDINARY SKILL IN THE ART.
> …
>
> Q: AND HAVE YOU ACTUALLY SEEN TESTS OR ANYTHING THAT CONFIRMS YOUR VIEW?
> …
>
> A: I HAVE … SEEN THE FIBERS -- I HAVE DIRECTLY SEEN THE FIBERS [IN THE M-6 DEVICES] LOOSENING IN THEIR AXIAL COMPRESSIVE FORCE. I UNDERSTAND, AND I KNOW THIS WAS PART OF WHAT [SYNTHES EXPERT] DR. WILKE PRESENTED IN HIS TESTIMONY. IN DR. WILKE'S TESTING, THE FIBERS CAN BECOME LOOSE AND SLIP THROUGH THE SLOTS UNDER AN AXIAL COMPRESSIVE FORCE.
>
> Q: DOES THAT CONSTITUTE ANCHORED TO YOU?
>
> A: NO, IT DOES NOT.

Synthes argues that Dr. Levenston improperly narrowed the court's construction of the term "anchored," and that without his testimony, SK produced no substantial evidence to rebut Dr. Hayes' testimony that the M-6 devices meet the "anchored" limitation. The court disagrees. While "[t]he risk of confusing the jury is high when experts opine on claim construction," *CytoLogix Corp. v. Ventana Med. Sys., Inc.*, 424 F.3d 1168, 1172-73 (Fed. Cir. 2005), experts may testify as to how a claim term would be understood by a person skilled in the art in showing whether an accused product infringes the patent at issue. *See Verizon Servs. Corp. v. Vonage Holdings Corp.*, 503 F.3d 1295, 1303 n. 2 (Fed. Cir. 2007); *Lazare Kaplan Int'l, Inc. v. Photoscribe Techs., Inc.*, 628 F. 3d 1359, 1376 (Fed. Cir. 2010) (dispute over what was needed to satisfy the claim term "positional accuracy of placement" concerned "factual questions relating to the test for infringement and not the legal inquiry of the appropriate scope of the … limitation"). In addition, "district courts are not … required to construe *every* limitation present in a patent's asserted claims." *O2 Micro Int'l Ltd. v. Beyond Innovation Tech. Co.*, 521 F.3d 1351, 1360 (Fed. Cir. 2008) (emphasis in original). The court must construe a term only where the parties raise an "actual dispute" regarding the scope of a term. *Id.*

Here, Dr. Levenston's opinion focused on the meaning of the term "anchored" as applied to the accused devices, and thus went primarily to infringement, not claim construction. Moreover, even if he strayed into issues of claim construction, Synthes did not object after expressly agreeing to "take it up question by question." "Litigants waive their right to present new claim construction disputes if they are raised for the first time after trial." *Broadcom Corp. v. Qualcomm, Inc.*, 543 F.3d 683, 694 (Fed. Cir. 2008); *see also CytoLogix Corp.*, 424 F.3d at 1172 ("[T]here is no ground for reversal since there was no objection to the expert testimony as to claim construction."). To the extent that Synthes raised an issue as to the meaning of "anchored" at all, it was focused on whether the limitation required the fiber system as whole to be anchored rather than individual fibers, not slippage. The court was therefore not required to determine whether the term "anchored" allowed for slippage, and the jury could have accepted SK's testimony that the M-6 fiber system did not meet that limitation because it slipped under axial compression or could be "removed readily."

2. "Fiber System"

The court construed "a fiber system" to mean "a collection of fiber strands joined to the third and fourth plates and capable of absorbing tensile forces and constraining radial expansion of the flexible core." Dkt. No. 84 at 9-10. The court did not address, nor was it asked to address, what forces would cause the core to expand.

During Synthes' case-in-chief, Dr. Ducheyne testified that under "lateral bending conditions" the fiber system imposes a "restraint" on the core. Tr. at 918. Dr. Hayes testified that when the M-6 device is "tilted … there is radial expansion of the core" and that the fibers constrain such expansion. Tr. at 1115-17. Dr. Hayes further explained that the fiber system is "capable of absorbing tensile forces" when the device is subjected to "all of the motions of the body that are necessary to replicate." *Id.* at 1097-98.

Synthes later objected that SK planned to impermissibly narrow the court's claim construction by arguing that the patent required the fiber system to constrain radial expansion under "axial compression." Tr. at 2041. At the same time, Synthes indicated that its position was that axial compression could result from "lateral bending," while SK's position was that axial compression was "a vertical load that is uniformly distributed across the surface of the implant." *Id.* at 2044. The court responded that "I'm really troubled by this because I think we are dealing with … a claim construction question that defines terms that I wasn't asked to define, specifically axial compression." Tr. at 2046. Synthes did not request any further construction, and the court simply cautioned that "as far as the radial expansion, I think we have to be careful that we do not redefine the claim construction and each side can explain why the radial expansion is or is not constrained." Tr. at 2062.

In SK's defense, Mr. Koske testified that because the core of the M6 device is "hard," it expands only about "five thousandths of an inch" when subjected to "a normal physiologic load in the spine and neck." Tr. at 2109. He also stated without objection that under axial compression, the fibers in the M-6 devices "go slack." Tr. at 2123.

SK's expert Dr. Levenston then testified that "the '270 patent describes radial expansion, which is … a uniform expansion outward and from the center as it responds to axial compression." Tr. at 2329. When Synthes objected, the court noted outside the jury's presence that radial expansion means "becoming larger in the radial direction … I really didn't specifically address the question [of if] it has to be uniform in all directions." *Id.* at 2342. Synthes therefore offered to "handle this on cross-examination." *Id.* at 2341. Before closing arguments, Synthes submitted a brief arguing that SK should not be permitted to argue Dr. Levenston's description of "radial expansion" to the jury. The court agreed, stating that "with respect to radial expansion, I did not limit my definition of radial expansion to uniform, so it seems to me that radial expansion is expansion in a radial direction." Tr. at 3170.

In closing, SK argued that "claims 29 and 31 are not infringed because the fiber system in the M6 devices does not constrain radial expansion under axial compression … when the patent talks about radial expansion … it's always talking about under axial compression and not under other circumstances." Tr. at 3228. Synthes did not object. On rebuttal, Synthes argued: "Axial compression. It's not in the claim. It's not in the claim construction, as I mentioned before, but it continues to be an issue by Spinal Kinetics." Tr. at 3268-69.

Synthes again contends that under the "proper" construction of "fiber system," SK failed to produce substantial evidence of non-infringement. However, the jury could have found that the M-6 fiber system is not "capable of … constraining radial expansion" based solely on Mr. Koske's testimony that the M-6 core expands only 5/1000 of an inch under normal loading conditions. In other words, the jury could have concluded that the M-6 core does not expand enough to require constraint under forces of *any* kind.[1] This is sufficient to support the jury's finding of non-infringement.

3. "Substantially Cylindrical"

[1] This is not to say that the jury could ignore evidence of de minimis infringement, but rather that there was sufficient evidence to find no infringement at all. *Cf. Embrex, Inc. v. Service Eng'g Corp.*, 216 F.3d 1343, 1349 (Fed. Cir. 2000) (noting that de minimis exception is construed narrowly).

The court did not construe the term "wherein the core is substantially cylindrical," rejecting SK's argument that the phrase excludes the shapes described in the disclosure, including "barrel-shaped," "ellipsoid" and "partial sphere." Dkt. No. 84 at 12. In so holding, the court noted that "nothing in the specification … suggests that these descriptions of shapes are mutually exclusive. For example, something that is 'substantially cylindrical' may also be, but is not necessarily required to be, 'barrel-shaped.'" *Id.*

At trial, Drs. Ducheyne and Hayes testified that the M-6 cores were substantially cylindrical. *See* Tr. at 1119; Tr. at 930. Dr. Hayes described the M6-C core as "like a tuna can," explaining that while "we may think of cylinders as sort of tall, skinny … like a coke can," a "flat" shape like a "quarter is, in fact a cylinder." Tr. at 1119-20. With respect to the M6-L core, he stated that although its shape includes a "dome," a "sloped surface," and "slight rounding … in my view it is clearly substantially cylindrical." *Id.* at 1120. Dr. Ducheyne offered a similarly conclusory opinion, testifying simply that "just the overall appearance [of the M-6 cores] is very, very much cylindrical." Tr. at 930.

SK did not present expert testimony regarding the shape of the M-6 cores, though it elicited a statement from Dr. Hayes on cross examination that a "pure mathematical" cylinder has only one diameter, while the M6-L core has a "series of diameters." Tr. at 1415. In addition, SK showed the M-6 cores to the jury on several occasions during the trial.

In closing, SK argued that the jury should use "common sense" in determining whether the M6 cores satisfied the "substantially cylindrical" limitation. Tr. at 3195. SK also claimed that the M6-L core looks like a "flying saucer," noting Dr. Hayes' concession that the shape had varied diameters. Tr. at 3229. SK then suggested that the M-6 core was "barrel-shaped," arguing that "if it's barrel-shaped, it's not essentially cylindrical." Tr. at 3229. At the next break, the court *sua sponte* noted that SK's argument was inconsistent with its claim construction. Tr. at 3253. Synthes was therefore allowed to walk the jury through the court's claim construction order at length and explain that statements made by SK's counsel are "not evidence." Tr. at 3262-63.

Synthes contends that SK was required to present expert testimony in order to rebut Synthes' experts' opinions that the M-6 cores are substantially cylindrical. But given the court's

plain meaning construction, which Synthes urged the court to adopt at the claim construction hearing, the jury's "common sense" understanding of geometry was sufficient to determine whether the cores met the claim limitation. *See Centricut, LLC v. Esab Group, Inc.*, 390 F.3d 1361 (Fed. Cir. 2004) ("In many patent cases expert testimony will not be necessary because the technology will be easily understandable without the need for expert explanatory testimony.") (citation omitted). The jury was also entitled to discount the testimony of Drs. Hayes and Ducheyne, who offered little, if any, support for the conclusion that the M6 cores are "substantially cylindrical." *See Rohm & Haas Co. v. Brotech Corp.*, 127 F.3d 1089, 1092 (Fed. Cir. 1997) ("Nothing in the rules or in our jurisprudence requires the fact finder to credit the unsupported assertions of an expert witness."). Based on its own observations, the jury could reasonably conclude that the flatness of the M6-C core and the domed surfaces of the M6-L core rendered both shapes not "substantially cylindrical."

In sum, the court finds that SK produced substantial evidence of non-infringement with respect to each disputed claim term as construed by the court. The court also concludes that insofar as SK attempted to narrow the disputed claim terms, such conduct does not warrant a new trial because Synthes has not shown prejudice. The jury was sufficiently instructed and appeared to understand that the court's claim constructions were controlling.[2] As to the "substantially cylindrical" limitation, Synthes cured any potential confusion by displaying the claim construction order to the jury and explaining that SK's argument was contrary to the court's construction. With respect to "anchored," Dr. Levenston's testimony went mainly to infringement, and Synthes waived any arguable objection by declining to request an additional construction at trial. Synthes also failed to request further construction of "fiber system," and chose to address SK's argument regarding that term on rebuttal. And even if Dr. Levenston's testimony concerning the limitation

[2] The court rejects Synthes' argument that the jury's question during deliberations as to why the claim term "joined" was changed to "anchored" shows it was confused by Dr. Levenston's testimony. Rather than evidencing confusion, the jury's question indicated that it understood that the court's claim construction controlled the infringement analysis. In addition, both parties agreed immediately to respond that the terms were synonymous, and Synthes did not suggest there was any confusion at the time.

was technically improper, there were other limitations that the accused devices did not meet. His testimony thus did not "infect[] the literal infringement inquiry" or result in any fundamental unfairness. *O2 Micro*, 521 F.3d at 1358 (remanding case where court failed to construe the single term in dispute); *see also Wordtech Sys. v. Integrated Networks Solutions, Inc.*, 609 F.3d 1308, 1314-1315 (Fed. Cir. 2010) (granting new trial where "the jury omissions were obvious, important, and seriously affected the trial's fairness").

Accordingly, the court denies Synthes' motion for a JMOL or new trial as to literal infringement.

B. Synthes' Motion for a JMOL or New Trial as to Written Description

To satisfy the written description requirement, the specification "must clearly allow persons of ordinary skill in the art to recognize that [the inventor] invented what is claimed." *Ariad Pharms., Inc. v. Eli Lilly & Co.*, 598 F.3d 1336, 1351 (Fed. Cir. 2010). "In other words, the test for sufficiency is whether the disclosure of the application relied upon reasonably conveys to those skilled in the art that the inventor had possession of the claimed subject matter as of the filing date." *Id.* (citations omitted). The "test requires an objective inquiry into the four corners of the specification from the perspective of a person of ordinary skill in the art." *Id.* An accused infringer must show the lack of written description by clear and convincing evidence. *Hynix Semiconductor Inc. v. Rambus Inc.*, 645 F.3d 1336, 1351 (Fed. Cir. 2011) (citing *ICU Med., Inc. v. Alaris Med. Sys., Inc.*, 558 F.3d 1368, 1376 (Fed. Cir. 2009).

The jury found the '270 patent invalid for lack of written description as to the following four claim limitations: (1) "plate including a plurality of openings;" (2) "wherein the core is substantially cylindrical; (3) "flexible core;" and (4) "substantially rigid bone contacting plate." Synthes argues that SK failed to produce substantial evidence of invalidity with respect to all four terms.[3]

[3] SK contends that Synthes' written description arguments are waived because they were not raised in Synthes' pre-verdict motion for judgment as a matter of law. The failure to raise an "issue" in a Rule 50(a) motion may result in a complete waiver of that issue in a renewed motion for judgment as a matter of law under Rule 50(b). *See Zhang v. Am. Gem Seafoods, Inc.*, 339 F.3d 1020, 1028 (9th Cir. 2003). Since Synthes' Rule 50(a) motion expressly argued that the

1. "Plate including a plurality of openings"

The '270 patent claims "the third [and fourth] plate including a plurality of openings … ." '270 Patent col.8 l.32, 33-34. The specification contains a figure depicting a circular plate with slots along its periphery. See No. 538, Opp. Br. at 6. The court construed the relevant claim language to mean "[t]wo or more openings to allow the fiber system to be joined or anchored to that plate." Dkt. No. 84 at 6.

Synthes argues that the disclosed species (peripheral slots) supports the claimed genus (openings located anywhere on the plate). Disclosure of a species may be sufficient written description support for a later-claimed genus including that species unless: (1) unpredictability in the particular field warrants closer scrutiny of whether the disclosure is sufficient to describe a genus or (2) the specification specifically distinguishes certain species in the prior art or identifies a particular species as an essential element of the invention, making clear that the patent discloses only the identified species and "nothing broader." *Bilstad v. Wakalopulos*, 386 F.3d 1116, 1124-26 (Fed. Cir. 2004) (citations omitted).

The court finds that SK produced substantial evidence showing that the field of intervertebral implants is sufficiently unpredictable to warrant further scrutiny of the claim language and that the location of the openings on the plates was an essential element of the invention. For example, Dr. Lee testified that using interior slots rather than peripheral slots would make a "significant difference" in the invention's "biomedical properties." Tr. at 2454-2458. Additionally, Mr. Koske testified that SK experimented for ten months with different kinds of openings before commercializing a product with internal slots. This evidence suggests that designing the plates of an intervertebral implant is less like pure mechanics than it is like chemistry, where those skilled in the art generally cannot expect to extrapolate the result from one chemical reaction to another without either specific teaching or undue experimentation. *See, e.g.*,

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testimony of SK's witnesses, including Drs. Lee and Levenston, failed to support a written description defense on all four challenged terms, the court rejects SK's argument. *See* Dkt. No. 473 at 10-12.

Genentech, Inc. v. Novo Nordisk A/S, 108 F.3d 1361, 1367 (Fed. Cir. 1997) (requiring a more specific disclosure for a patent claiming cleavable fusion expression process for producing human growth hormone, described as "the application of an unpredictable technology in the early stages of development"). Dr. Ducheyne also testified that the patented invention uses "endless fibers" which cannot be anchored with interior slots. Given the importance of anchoring the fiber system to the plates, the fact that altering the location of the openings could prevent such anchoring implies that the location of the openings is critical to practicing the patented invention. In combination, a jury could find this evidence sufficient to show that although the patent discloses plates with peripheral slots, the inventors did not have "possession of the claimed [plates with openings elsewhere] as of the filing date." *See Ariad Pharms., Inc.*, 598 F.3d at 1351.

Synthes also contends that SK's written description evidence rehashed arguments that the court rejected at claim construction. However, the Federal Circuit has made clear that, where a plaintiff seeks and obtains a broad construction, the fact finder may later invalidate those claims for failing one or more requirements of § 112, paragraph 1. *See id.* (invalidating method claims regulating cell activity for failure to adequately describe molecules capable of achieving desired result); *cf. Liebel-Flarsheim Co. v. Medrad, Inc.*, 481 F.3d 1371, 1380 (Fed. Cir. 2007) (invalidating claims previously construed by the same court for lack of enablement); *Pharm. Res., Inc. v. Roxane Laboratories, Inc.*, 253 F. App'x 26, 28 (Fed. Cir. 2007) ("Par sought extremely broad claims in a[n] … unpredictable [field] … set[ting] a high burden [its] disclosure must meet to satisfy the requisite *quid pro quo* of patent enablement."); *see also Wyeth v. Abbott Labs*, 2012 U.S. Dist. LEXIS 6869 (D.N.J. 2012) (granting summary judgment for lack of written description and declining plaintiff's request to revise earlier claim construction "on … issue[s] [on] which [p]laintiffs themselves prevailed"). The court thus finds this argument unpersuasive, and concludes that the jury's verdict as to this term was supported by substantial evidence.

2. "Substantially Cylindrical Core"

Claim 29 includes the language "wherein the core is substantially cylindrical … ." '270 Patent col.8 l.37-38. The specification describes an embodiment where "the central part is essentially hollow-cylindrical, hollow-prismatic or is a body of rotation, an ellipsoid, a partial

sphere or barrel-shaped with an axis of rotation that is coaxial with the central axis." Dkt. No. 84 at 12. As requested by Synthes, the court did not construe this term as having other than its plain and ordinary meaning. Dkt. No. 84 at 11-12.

Synthes argues that SK's evidence as to this limitation—expert testimony that the specification does not contain the phrase "substantially cylindrical" and that the inventor did not have such a shape in mind—is conclusory. "Substantial evidence of invalidity must meet certain minimum requirements; 'general and conclusory testimony . . . does not suffice as substantial evidence of invalidity.'" *Cytologix Corp. v. Ventana Med. Sys.*, 424 F.3d 1168, 1176 (Fed. Cir. 2005) (quoting *Koito Mfg. Co. v. Turn-Key-Tech, LLC*, 381 F.3d 1142, 1152 (Fed. Cir. 2004)).

The court agrees that SK's evidence on this issue is conclusory. Further, it was rebutted by the plain language and figures of the patent, each of which depicts a cylinder-shaped body. Synthes was not required to produce additional testimony to contradict SK's evidence, particularly given the court's plain meaning construction of the term. *See Vas-Cath Inc. v. Mahurkar*, 935 F.2d 1555, 1564 (Fed. Cir. 1991) (noting that "drawings alone may be sufficient" to meet written description). Therefore, the jury's finding of invalidity based upon this term was not supported by substantial evidence.

3. "Flexible Core"

Claim 29 recites a "flexible core," the "top surface of the core being in contact with the third plate and the bottom surface of the core being in contact with the fourth plate … ." '270 Patent c.8 l.36- 42. At claim construction, Synthes argued that "flexible core" should be construed to mean "elastic" or "deformable" core. SK contended that the term "flexible" claimed new matter because the specification referred to an "elastically deformable formed body . . . with an *incompressible* core, preferably a liquid core." *See* Dkt. No. 84 at 7-8 (emphasis added). The court essentially adopted Synthes' proposed construction, reasoning that the disclosed "incompressible core" merely described the center of the claimed "core." The court therefore construed "flexible core" to mean "[t]he deformable central part of the implant substantially located between the third and fourth plates." *Id.*

At trial, SK relied primarily on the language of the patent itself, arguing that disclosure of an "incompressible core" was basically incompatible with the "flexible core" limitation. SK also pointed to testimony by Synthes' Dr. Lechmann that it would have been "important" to disclose the material out of which a flexible core would be made. Dkt. No. 532 at 21.

Such evidence is sufficient to support the jury's finding. "[A] patent can be held invalid for failure to meet the written description requirement, based solely on the language of the patent specification." *Univ. of Rochester v. G.D. Searle & Co., Inc.*, 358 F.3d 916, 927 (Fed. Cir. 2004). Simply put, the jury could reasonably have believed that because the patent specifically disclosed an "incompressible core," its inventors did not possess a "deformable" core at the time of filing. While the court's construction attempted to reconcile the two terms, as noted above, a jury may find a limitation invalid as an issue of fact even where the court has construed the limitation in light of the specification as an issue of law. This is particularly true where, as here, the patentee receives its proposed claim construction. *See, e.g.*, *Liebel-Flarsheim Co.*, 481 F.3d at 1380 ("The motto, 'beware of what one asks for,' might be applicable here."). The court thus finds that the jury had substantial evidence from which to conclude that the "flexible core" term failed to meet the requirements of § 112.

4. "Substantially Rigid Bone Contacting Plate"

Claim 29 describes a "substantially rigid bone contacting plate … ." '270 Patent col.8 l.22. The specification discloses "closing plates" made of "titanium "or "titanium alloy." *Id.* at col.6 l.3-5. It also contains drawings of the plates but does not describe their exact dimensions or proportions. '270 Patent col.6 l.4-5 and Figs. 3 and 4.

Synthes contends that the fact that the patent discloses plates made of titanium, along with the drawings of the plates, supports a claim covering "rigid" plates. SK responds that without any accompanying disclosure of the plates' thickness, the specification fails to show "rigid[ity]." Dkt. No. 538 at 20-21.

The court concludes that the figures and language describing the material of which the plates are made provide an adequate written description of the disputed claim term. *See Vas-Cath*, 935 F.2d at 1564. Unlike the claim limitations at issue in the cases SK cites, the patent here does

not restrict the plates to a particular dimension or proportion, reciting instead only that they are "rigid." *Compare Vas-Cath*, 935 F.2d at 1566 (involving limitations directed to a return lumen diameter "substantially greater than one-half but substantially less than a full diameter"); *Application of Heinle*, 342 F.2d 1001, 1002 (C.C.P.A. 1965) (involving claims reciting an "aperture … approximately one-fourth of the circumference of [the] core"); *Koito Mfg. Co., Ltd. v. Turn-Key-Tech, LLC*, 381 F.3d 1142, 1146 (Fed. Cir. 2004) (involving claims directed to a "mold cavity … "significantly thicker and wider" than an adjacent cavity). The plates' rigidity (or lack thereof) results from both their thickness and "the material from which [they are] made." Tr. at 1074:25-1075:2. The specification discloses the "material," (titanium) and the drawings of the plates depict a thickness sufficient, when considered with the specification as a whole, to convey rigidity to one skilled in the art. Therefore, the court concludes that the "substantially rigid bone contacting plate" limitation satisfies the written description requirement as a matter of law.

To summarize, the court finds that the inadequate written description defense as to "substantially cylindrical core" and "substantially rigid bone contacting plate" is not supported by substantial evidence. The defense is supported as to the "openings" and "flexible core" limitations. Accordingly, the motion seeking judgment as a matter of law that claims 29-31 of the '270 patent are valid is denied. *See Regents of the Univ. of California v. Eli Lilly & Co.*, 119 F.3d 1559, 1566 (Fed. Cir. 1997) ("[A]n applicant complies with the written description requirement 'by describing the invention, with *all* its claimed limitations ….'") (quoting *Lockwood v. American Airlines, Inc.*, 107 F.3d 1565, 1572 (Fed. Cir. 1997)) (emphasis added).

As Synthes has not shown that the verdict is "contrary to the clear weight of the evidence, … based upon evidence which is false, or … a miscarriage of justice," its motion for a new trial is denied as well. *Wordtech Sys.*, 609 F.3d at 1313 (citation omitted).

C. Synthes' Motion for a New Trial on the Doctrine of Equivalents

Synthes next argues that it is entitled to a new trial because the court erred in denying its pre-trial motion to prevent SK from presenting evidence that the '270 patent was not infringed under the doctrine of equivalents ("DOE"). Synthes' challenge is untimely, as Local Rule 7-9(a) requires a motion for reconsideration of any interlocutory order to be made before the entry of

judgment. More importantly, even assuming that a Rule 59 motion is a proper vehicle for raising this issue, it has no merit. Synthes informed the court during trial that it had voluntarily elected to "drop doctrine of equivalents in this case." Tr. at 2267, 2276. The court is not persuaded by its post-hoc explanation that its decision was motivated by a concern that presenting its DOE claim would open the door for SK to produce previously undisclosed evidence. Further, Synthes offers no explanation as to what this previously undisclosed evidence would have been, and it is pure speculation as to whether the court would have admitted such evidence. Accordingly, Synthes' motion for a new trial on this issue is denied.

D. SK's Motion for a JMOL on the Doctrine of Equivalents

SK moves for JMOL that Synthes failed to produce substantial evidence supporting its DOE claim. As noted, Synthes dropped its DOE claim from the case, and the court orally granted SK's motion during the trial. SK's motion on this issue is granted.

E. SK's Motion for a JMOL as to Damages

SK moves for a JMOL as to damages, requesting that the court limit any potential award to no more than 2% of net sales in the event this case is reversed and remanded on the issues of infringement and invalidity. In a previous order, the court found that Synthes' damages, if any, must be based on a reasonable royalty owed to the holding company that owns the '270 patent, Synthes USA, LLC ("Synthes USA").[4] *See* Dkt. No. 298 at 6. The court also dismissed Synthes USA's parent company, Synthes, Inc., for lack of standing because it is not an owner or exclusive licensee of the '270 patent. *Id.* at 4. SK now argues that Synthes USA's damages evidence is inadmissible because it inappropriately suggests that in determining a reasonable royalty rate, the jury may consider the impact of SK's allegedly infringing sales on the Synthes organization "as a whole."

Although the court finds this issue troubling, it is not persuaded by SK's position. There are several approaches for calculating a reasonable royalty. The method relevant here, known as "hypothetical negotiation," "attempts to ascertain the royalty upon which the parties would have

[4] Synthes USA, LLC is the only plaintiff in this case, but for the sake of brevity it has been referred to as "Synthes" elsewhere in this order.

agreed had they successfully negotiated an agreement just before infringement began." *Lucent Technologies, Inc. v. Gateway, Inc.*, 580 F.3d 1301, 1324 (Fed. Cir. 2009) (citations omitted). As the Federal Circuit has recognized, a "holding company would not enter any negotiation without considering the competitive position of its corporate parent" and "any hypothetical negotiation with the holding company must necessarily include the reality that the economic impact on the [parent c]orporation would weigh heavily in all decisions." *Union Carbide Chems. & Plastics Tech. Corp. v. Shell Oil Co.*, 425 F.3d 1366, 1378 (Fed. Cir. 2005) *overruled on other grounds by Cardiac Pacemakers, Inc. v. St. Jude Med., Inc.*, 576 F.3d 1348, 1359 (Fed. Cir. 2009) (holding testimony about the impact of infringing sales on the plaintiff's parent company admissible to show reasonable royalty). The *Union Carbide* court distinguished between a licensor/licensee arrangement, in which the impact of infringement on a non-exclusive licensee is inadmissible to show damages, and the "business realities that stem from the partnership of … related entities." *See id.*

Here, Synthes USA's expert Dr. Tollison testified that the party negotiating on behalf of Synthes USA would be "the Synthes organization as a whole" and included Synthes, Inc.'s lost profits as one factor in a reasonable royalty analysis. Tr. at 1448-49; 1476-77. He later clarified that the individual "controlling" the negotiations would be "somebody like Mr. Donohue," the CFO of Synthes USA, Synthes, Inc. and "all those subentities." Tr. at 1448-49. SK did not object to his testimony. Moreover, it reflects economic reality: Synthes USA is a mere holding company and any negotiation on its behalf would be conducted by and for the benefit of its corporate parent, Synthes, Inc., which would undoubtedly have its potential lost sales and the lost sales of its subsidiaries in mind. Thus, although Dr. Tollison's testimony creates a risk that Synthes USA may be able to recover damages based *in part* on other entities' lost profits, it is permissible under *Union Carbide*. *Compare Poly-Am., L.P. v. GSE Lining Tech., Inc.*, 383 F.3d 1303, 1311 (Fed. Cir. 2004) (patentee cannot recover actual lost profits on behalf of subsidiary with common parent).

SK attempts to distinguish *Union Carbide* by arguing that the district court in that case "instructed the plaintiff that it could use no numbers associated with the parent corporation's lost

profits." Dkt. No. 512 at 2, n. 3. However, the district court did not prevent discussion of numbers; rather, in response to an objection, the court apparently informed the jury that "the expert's analysis *included* no numbers associated with [the parent corporation's] lost profits." *Union Carbide Chems. v. Shell Oil Co.*, 2004 U.S. Dist. LEXIS 10730, at *48 (D. Del. June 9, 2004) (emphasis added). More importantly, the Federal Circuit did not address this limitation, let alone affirm it, holding more broadly that evidence of the "economic impact" of infringing sales on the parent was admissible. *Union Carbide*, 425 F.3d at 1378. This court has difficulty conceiving of how an expert could analyze the "economic impact" of infringing sales on a parent company without including numbers, alongside other factors.

Finally, the court rejects SK's argument that Dr. Tollison's lost profit figures lacked foundation. Dr. Tollison testified that his calculations were based on information provided by a manager in Synthes' accounting division, an individual well-suited to provide such data. To the extent SK questions the reliability of the underlying figures, it had ample opportunity to cross-examine over the course of these proceedings. The court thus denies SK's motion for JMOL as to damages.

F. SK's Motion for Attorneys' Fees

SK last moves for an award of attorneys' fees, arguing that: (1) the instant litigation is objectively baseless and brought in subjective bad faith; and (2) Synthes' committed litigation misconduct. The court may award attorneys' fees under 35 U.S.C. § 285 if it determines that: (1) the "prevailing party has proved by clear and convincing evidence that the case is exceptional" and (2) an award for attorneys' fees is justified. *MarcTec, LLC v. Johnson & Johnson*, 664 F.3d 907, 916 (Fed. Cir. 2012). A case may be deemed exceptional when there has been "willful infringement, fraud or inequitable conduct in procuring the patent, misconduct during litigation, vexatious or unjustified litigation, conduct that violates the Federal Rule of Civil Procedure 11, or like infractions." *Id.* (citing *Serio-US Indus., Inc. v. Plastic Recovery Techs. Corp.*, 459 F.3d 1311, 1321-22 (Fed. Cir. 2006)). "Absent litigation misconduct or misconduct in securing the patent, a district court can award attorney fees under § 285 only if the litigation is both: (1) brought in subjective bad faith; and (2) objectively baseless." *Id.* at 916.

In general, a lawsuit which survives a motion for summary judgment is not objectively baseless. *See, e.g.*, *Medtronic Navigation, Inc. v. BrainLAB Medizinische ComputerSysteme GmbH*, 603 F.3d 943, 954 (Fed. Cir. 2010) (reversing exceptional case finding where the "district court's characterization of Medtronic's claims as frivolous is undermined by the fact that the court denied BrainLAB's motions for summary judgment and denied each of its motions for JMOL filed during the trial"); *see also Isco Int'l, Inc. v. Conductus, Inc.*, 279 F. Supp. 2d 489, 512 (D. Del. 2003) ("[T]he fact that the case survived an intensive summary judgment process and garnered wildly different expert opinions on each side is indicative of its prima facie legal merit."). Here, SK either lost or did not file summary judgment motions as to the issues on which it prevailed at trial. This alone counsels strongly against finding that the case is exceptional.

As to bad faith, the court also rejects SK's allegation that Synthes' writing of claims 29-31 in order to cover SK's M-6 devices was a "predatory act." "[T]here is nothing improper, illegal or inequitable in filing a patent application for the purpose of obtaining a right to exclude a known competitor's product from the market; nor is it in any manner improper to amend or insert claims intended to cover a competitor's product the applicant's attorney has learned about during the prosecution of a patent application." *Kingsdown Med. Consultants, Ltd. v. Hollister Inc.*, 863 F.2d 867, 874 (Fed. Cir. 1988) Further, SK provides no evidence supporting its contention that Synthes knew that claims 29-31 lacked written description support or that SK's devices did not infringe, issues that were both hotly contested throughout this litigation. *Compare Marctec*, 664 F.3d at 918 (finding bad faith where "no reasonable application of the principles this court … supports [the plaintiff's] position"); *R&L Carriers, Inc. v. Pitt Ohio Express, Inc.*, 2012 U.S. Dist. LEXIS 29020, at *30-31, n. 4 (S.D. Ohio March 6, 2012) (sanctions appropriate where the patent holder "adduced virtually no admissible evidence that [the accused infringer] practiced the last step of the claimed method").

Finally, while SK provides a laundry list of other allegations, none rise to the level of litigation misconduct. The court therefore concludes that SK has failed to show it is entitled to attorneys' fees under Section 285.

III. ORDER

For the foregoing reasons, the court denies each of the post-trial motions, with the exception of SK's motion for JMOL on the doctrine of equivalents.

DATED: September 26, 2012

Ronald M. Whyte
United States District Judge