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13 Attorneys for Defendants  
 ALPHATEC HOLDINGS, INC. AND ALPHATEC SPINE, INC.

14  
 15 **UNITED STATES DISTRICT COURT**

16 **SOUTHERN DISTRICT OF CALIFORNIA - SAN DIEGO DIVISION**

17 NUVASIVE, INC., a Delaware  
 18 corporation,

19 Plaintiff,

20 v.

21 ALPHATEC HOLDINGS, INC., a  
 Delaware corporation and  
 22 ALPHATEC SPINE, INC., a  
 California corporation,

23 Defendants.

**Case No. 18-CV-00347-CAB-MDD**

**DEFENDANTS' BENCH  
 MEMORANDUM REGARDING  
 SECONDARY CONSIDERATIONS**

**Judge:** Hon. Cathy Ann Bencivengo  
**Courtroom:** 4C

1           Alphatec respectfully submits that there is no nexus between the asserted claims  
2 and NuVasive’s proffered evidence of secondary considerations of non-obviousness  
3 relating to the XLIF platform and procedure as a whole. A “patent claim is not  
4 coextensive with a product that includes a ‘critical’ unclaimed feature that is claimed  
5 by a different patent and that materially impacts the product’s functionality.” *Teva*  
6 *Pharms. Int’l GmbH v. Eli Lilly & Co.*, 8 F.4th 1349, 1361 (Fed. Cir. 2021). The  
7 undisputed evidence in this case—and governing Federal Circuit law—establishes that  
8 XLIF includes an unclaimed feature—**neuromonitoring**—that NuVasive and its  
9 witnesses have admitted is critical and required to perform XLIF, that materially  
10 impacts the product’s functionality, and that is claimed by other patents in NuVasive’s  
11 portfolio. Thus, the Court should (1) preclude NuVasive from presenting any evidence  
12 of secondary considerations, including commercial success, skepticism, industry praise,  
13 long-felt but unmet need, failure of others, teaching away, and unexpected results, and  
14 (2) limit NuVasive’s evidence of copying to the patented features. To hold otherwise  
15 would apply different standards to proving infringement and invalidity. By the language  
16 of the asserted claims, NuVasive is not required to show that Alphatec’s accused system  
17 includes all the components of XLIF for a finding of infringement. Yet permitting  
18 NuVasive to argue that XLIF is the claimed invention forces Alphatec to argue the  
19 invalidity of XLIF as a whole, as opposed to the asserted claims.

## 20       **I.       ARGUMENT**

21           The Court cautioned NuVasive that it “cannot establish secondary considerations  
22 of non-obviousness by talking about the neuromonitoring system [that is part of XLIF]  
23 but is not part of the claim.” 2/28/2022 Hr’g at 9:20–23; *see also id.* at 10:14-17  
24 (“[NuVasive] can’t get over any hump there by saying oh, and then with this  
25 neuromonitoring, which is not a claim that is asserted here, we have demonstrated that  
26 this is an advancement in the surgical art.”). Yet NuVasive presented this exact  
27 argument to the jury during its opening statement, and the Court should preclude further  
28 attempts to attribute secondary indicia **regarding XLIF** to the asserted claims. Further,

1 NuVasive should not be permitted to disguise evidence regarding XLIF simply by  
2 calling it NuVasive’s “lateral system.”

3 **A. The asserted claims do not require neuromonitoring**

4 NuVasive asserts three patents against Alphatec: the ’531 patent, the ’801 patent,  
5 and the ’832 patent. *None* of the asserted claims require neuromonitoring, a necessary  
6 component of NuVasive’s XLIF platform and procedure. *See* ’531 patent at claims 1,  
7 39; ’801 patent at claims 1, 2, 15, 16, 26; ’832 patent at claims 1, 3, 9, 10. There is only  
8 one independent claim remaining in the case that remotely relates to neuromonitoring,  
9 and even that only requires conventional sequential dilators equipped with stimulation  
10 electrodes untied to any system with functionality that stimulates the electrodes,  
11 receives feedback, and actually monitors the nerves in the psoas muscle. *See* ’832  
12 patent, claim 1 (“wherein at least one instrument from the group consisting of said  
13 elongate inner element and said dilators includes *a stimulation electrode* that outputs  
14 electrical stimulation for nerve monitoring when the at least one instrument is  
15 positioned in the psoas muscle”). One dependent claim of the ’801 patent requires the  
16 same. *See* ’801 patent, claim 15 (“each of the plurality of sequential dilators includes *a*  
17 *stimulation electrode* at a distal region”). Notably, the asserted claims of the ’531 patent  
18 simply recite a collection of known instruments without any capability of connecting to  
19 a neuromonitoring system.

20 The lack of neuromonitoring in the asserted claims is further highlighted by the  
21 fact that there are other claims in the asserted patents that *do* require neuromonitoring.  
22 *See, e.g.*, ’801 patent, claim 7 (“further comprising *a control unit capable of electrically*  
23 *stimulating said at least one stimulation electrode*, sensing a response of a nerve  
24 depolarized by said stimulation, determining at least one of *proximity and direction*  
25 between said at least one stimulation electrode and said depolarized nerve based upon  
26 the sensed response, and communicating said at least one of proximity and direction to  
27 a user”), ’832 patent, claim 11 (“further comprising *a monitoring system* that delivers  
28 an electrical stimulation signal to the stimulation electrode of the initial dilator, monitors

1 electromyographic activity detected by a set of sensor electrodes in leg muscle  
2 myotomes associated with nerves in the vicinity of the targeted spinal disc, and displays  
3 information on a display screen in response to the detection of said electromyographic  
4 activity via said set of sensor electrodes in said leg muscle myotomes”). None of these  
5 claims are asserted in this case.

6 **B. There is no nexus between the asserted claims and XLIF**

7 The Federal Circuit has previously concluded that NuVasive’s XLIF Surgical  
8 Technique *requires* the NeuroVision® System:

9 *[T]he Guide specifically identifies the MaXcess® II Access System,*  
10 *MaXcess® XLIF System, and NeuroVision® System as part of the*  
11 *required instruments* to successfully complete the technique... While  
12 the Guide does list the components of the ‘XLIF Instrument System,’ *it*  
13 *is very clear that the actual XLIF surgical technique requires more*  
14 *than just these instruments; it utilizes the MaXcess® II Access,*  
15 *MaXcess® XLIF, and NeuroVision® Systems in addition to general*  
16 *surgical tools* such as nerve retractors, disc cutters, and curettes that are  
17 traditionally employed in interbody fusion procedures.

18 *NuVasive, Inc. v. Iancu*, 752 F. App’x 985, 995–996 (Fed. Cir. 2018) (emphasis added).

19 NeuroVision® is NuVasive’s proprietary neuromonitoring system that “allows  
20 surgeons to monitor the placement of the surgical instruments relative to nearby neural  
21 structures.” *Id.* at 989. The trial record reflects the same: NuVasive’s XLIF Surgical  
22 Technique (PTX-2763) expressly states that “[t]o successfully complete this technique,  
23 the following patient positioning supplies, instruments, implants, and fixation options  
24 are *required* . . . NVM5® . . . NVM5 EMG Module.” *Id.* at 4 (emphasis added). Step  
25 5 of the XLIF Surgical Technique stresses the “importance of neuromonitoring.” *Id.* at  
26 12. It confirms that neuromonitoring is “*critical to the safety and reproducibility of any*  
27 *lateral transpsoas approach* due to the lumbar plexus’ positioning within the psoas.”  
28 *Id.* at 13 (emphasis added). “The XLIF® Procedure relies on the clinically validated  
dynamic EMG nerve avoidance mode of NVM5® to identify a safer docking position  
and working area.” *Id.* at 12; *see also* PTX-59 at 17.

1 NuVasive’s documents confirm that “the primary benefits of XLIF compared to  
2 conventional surgical approaches” and the “critical, differentiating factors that help to  
3 make XLIF reproducible” include the “use of automated, directionality stimulated  
4 electromyography (NVJJB®/M5®) with discrete threshold responses which provide  
5 information on the location and distance of instrumentation to motor nerves.” PTX-  
6 2879 at 1. As confirmed by NuVasive’s witness, Kyle Malone, this system includes a  
7 separately “patented Hunting Algorithm.” PTX-2535 at 2; *see also*  
8 <https://www.nuvasive.com/resources/virtual-patent-marking/>.

9 Dr. Youssef has also told the jury that the “XLIF procedure has a very rote  
10 approach to the system, meaning you do each step, like I just described, which is very  
11 specific to that procedure.” Trial Day 3 Rough Tr. (Youssef) at 101:2–4. Indeed, his  
12 demonstration to the jury on the XLIF procedure specifically referenced  
13 neuromonitoring using directional stimulated dilators. Trial Day 3 Rough Tr. at 31:9–  
14 18 (“that line is then emitting an impulse and you can hook up neuromonitoring ... so  
15 I’m looking at the X-ray machine and I’m responding to the information I’m getting  
16 from the EMG machine.”), 32:5–10 (“I’m placing the second dilator on and turning this  
17 on, once again, 360 degrees, confirming that no nerve is in the way... using the same  
18 neuromonitoring, I’m confirming I’m not near a nerve or on a nerve.”).

19 In *NuVasive, Inc. v. Iancu*, the Federal Circuit found that nexus existed between  
20 the invention in U.S. Patent No. 7,691,057 and NuVasive’s XLIF. However, unlike the  
21 asserted claims in this case, the ’057 patent expressly claimed “neuromonitoring” (*i.e.*,  
22 “monitoring for resulting electromyographic (EMG) activity after emission of each  
23 stimulation signal”) by coupling the dilators equipped with stimulation electrode “to a  
24 control unit of a neuromonitoring system”:

25 *performing neuromonitoring ... wherein the neuromonitoring*  
26 *comprises* causing the emission of a plurality of electrical stimulation  
27 signals from a stimulation electrode provided on a distal portion of at  
28 least one component of the distraction assembly and *monitoring for*  
*resulting electromyographic (EMG) activity after the emission of*

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