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15 *Attorneys for Plaintiff NuVasive, Inc.*

16 **UNITED STATES DISTRICT COURT**
17 **SOUTHERN DISTRICT OF CALIFORNIA**
18 **SAN DIEGO DIVISION**

20 NUVASIVE, INC., a Delaware
corporation,
21 Plaintiff,
22 v.
23 ALPHATEC HOLDINGS, INC., a
24 Delaware corporation, and ALPHATEC
SPINE, INC., a California corporation,
25 Defendants.

) CASE NO. 3:18-cv-0347-CAB-
) MDD
) **DECLARATION OF JIM A.**
) **YOUSSEF, M.D. IN SUPPORT**
) **OF NUVASIVE'S MOTION**
) **FOR PRELIMINARY**
) **INJUNCTION**
) **Judge:** Hon. Cathy Ann
) Bencivengo
) **Courtroom:** 4C
) **Hearing Date:** May 10, 2018
) **JURY TRIAL DEMANDED**

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| A. Claim 1 | 29 |

- 1 i. A system for accessing a surgical target site, comprising 29
- 2 ii. a dilator system comprising a plurality of sequential
- 3 dilators deliverable along a lateral, trans-psoas path to a
- 4 targeted spinal site to create a distraction corridor; 30
- 5 iii. a handle assembly including a first pivotable arm member,
- 6 a second pivotable arm member that pivots relative to said
- 7 first arm member in response to manual adjustment of a
- 8 component of the handle assembly, and a translating
- 9 member adapted to move longitudinally relative to said
- 10 first and second arm members;..... 31
- 11 iv. a first retractor blade having a generally concave inner
- 12 facing surface and being rigidly coupled to said first
- 13 pivotable arm member prior to introduction toward the
- 14 targeted spinal site, a second retractor blade having a
- 15 generally concave inner-facing surface and being rigidly
- 16 coupled to said second pivotable arm member prior to
- 17 introduction toward the targeted spinal site, and a third
- 18 retractor blade rigidly coupled to said translating member
- 19 prior to introduction toward the targeted spinal site; 33
- 20 v. an intradiscal shim element that releasably mounts to the
- 21 third retractor blade such that a maximum length of the
- 22 intradiscal shim element extends generally parallel to a
- 23 maximum length of the third retractor blade and a distal
- 24 tip portion of the intradiscal shim element extends distally
- 25 of the distal end of the third retractor blade, wherein the
- 26 intradiscal shim element engages with a groove defined by
- 27 the third retractor blade to penetrate into a spinal disc at
- 28 the targeted spinal site when the intradiscal shim element
- is releasably mounted to the third retractor blade; and 35
- vi. said handle assembly being configured to simultaneously
- introduce said first, second and third retractor blades along
- the lateral, trans-psoas path toward the targeted spinal site
- in a closed position while the generally concave inner-
- facing surfaces of said first and second retractor blades
- engage with an outermost dilator of the dilator system and
- thereafter opened by pivoting said first and second
- pivotable arm members relative to one another to create an
- operative corridor to said surgical target site..... 36

1 B. Claim 2: The system of claim 1, further comprising a K-wire
2 configured to be advance along the lateral, trans-psoas path to
3 the targeted spinal site and engage an annulus of said spinal disc,
4 the K-wire further configured to extend entirely through a dilator
5 of said dilator system from the annulus of the spinal disc to a
6 position beyond a proximal most end of the dilator system. 38
7
8 C. Claim 6: The system of claim 1, wherein at least one of said
9 plurality of sequential dilators is equipped with at least one
10 stimulation electrode. 38
11
12 D. Claim 15: The system of claim 1, wherein each of the plurality of
13 sequential dilators includes a stimulation electrode at a distal
14 region. 39
15
16 E. Claim 16: The system of claim 15, further comprising a K-wire
17 configured to be advanced to the targeted spinal site and to
18 engage an annulus of said spinal disc at the targeted spinal site,
19 wherein at least one of the plurality of sequential dilators are
20 deliverable over the K-wire. 39
21
22 F. Claim 19: The system of claim 1, wherein the third retractor
23 blade includes a generally concave inner-facing surface and the
24 groove of the third retractor blade is formed along the generally
25 concave inner-facing surface. 40
26
27 G. Claim 20: The system of claim 19, wherein the intradiscal shim
28 element includes at least one dovetail element to mate with the
groove of the third retractor blade. 40
H. Claim 23: The system of claim 1, wherein said handle is
configured to simultaneously move said first arm member and
said second arm member. 40
I. Claim 26: The system of claim 1, further comprising a shim
insertion tool that releasably attaches to the intradiscal shim
element during introduction of the intradiscal shim element
toward the targeted spinal site. 41
J. Claim 28: The system of claim 1, wherein the handle assembly
further includes a locking mechanism to selectively lock at least
the first arm member in a retracted position such that the first
retractor blade is spaced apart from the second retractor blade. 41

1 K. Claim 29: The system of claim 1, wherein the first, second, and
2 third retractor blades define an operative corridor to the targeted
3 spinal site when moved to the opened position such that an
4 implant is deliverable through the operative corridor to the
5 targeted spinal site. 41

6 X. U.S. PATENT NO. 8,355,780..... 42

7 A. Claim 21 43

8 i. A system for forming an operating corridor to a lumbar
9 spine, comprising:..... 43

10 ii. a dilator system to create a distraction corridor along a
11 lateral, trans-psoas path to the lumbar spine, wherein said
12 dilator system comprises at least two dilators of
13 sequentially larger widths deliverable to a spinal disc
14 along the lateral, trans-psoas path to the lumbar spine, a
15 second dilator of said at least two dilators being slidably
16 engageable with an exterior of a first of said at least two
17 dilators, at least one of the first and second dilators
18 including a stimulation electrode to deliver electrical
19 stimulation for nerve monitoring when the stimulation
20 electrode is positioned along the lateral, trans-psoas path
21 to the lumbar spine;..... 44

22 iii. a three-bladed retractor assembly slidable over the dilator
23 system toward the spinal disc along the lateral, trans-psoas
24 path, the three-bladed retractor assembly including: 45

25 iv. a blade holder assembly and first, second, and third
26 retractor blades that extend generally perpendicularly
27 relative to arm members of the blade holder assembly, 45

28 v. wherein the three-bladed retractor assembly is adjustable
 from a first position in which the first, second, and third
 retractor blades are adjacent to one another and slidable
 over the dilator system to a second position in which the
 second and third retractor blades are moved away from the
 first retractor blade to enlarge the distraction corridor and
 thereby form an operative corridor along the lateral, trans-
 psoas path to the lumbar spine, 46

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