

IN THE UNITED STATES DISTRICT COURT  
FOR THE DISTRICT OF DELAWARE

|                              |   |                    |
|------------------------------|---|--------------------|
| MEDTRONIC VASCULAR, INC. and | ) |                    |
| MEDTRONIC USA, INC,          | ) |                    |
|                              | ) |                    |
| Plaintiffs,                  | ) |                    |
|                              | ) |                    |
| v.                           | ) | Civ. No. 98-80-SLR |
|                              | ) |                    |
| ADVANCED CARDIOVASCULAR      | ) |                    |
| SYSTEMS, INC. and GUIDANT    | ) |                    |
| SALES CORP.,                 | ) |                    |
|                              | ) |                    |
| Defendants.                  | ) |                    |

**MEMORANDUM ORDER**

At Wilmington this 5th day of January, 2005, having heard oral argument and having reviewed the papers submitted in connection with the parties' proposed claim construction;

IT IS ORDERED that the disputed claim language in U.S. Patent Nos. 5,514,154 ("the '154 patent"), 5,603,721 ("the '721 patent"), 5,735,893 ("the '893 patent"), 6,056,776 ("the '776 patent"), 6,066,167 ("the '167 patent"), 6,066,168 ("the '168 patent") and 6,432,133 ("the '133 patent") as identified by the above referenced parties, shall be construed consistent with the tenets of claim construction set forth by the United States Court of Appeals for the Federal Circuit, as follows:

1. **"Longitudinally flexible stent."** Consistent with its ordinary meaning<sup>1</sup> and the specification, the court construes "longitudinally flexible stent" to mean "a stent that is flexible along its longitudinal axis (i.e. length) to facilitate delivery through tortuous body lumens."<sup>2</sup>

2. **"Cylindrical element," "cylindrically shaped element," and "cylindrical ring."** Consistent with the patents at issue<sup>3</sup> and their prosecution history,<sup>4</sup> the court construes these terms to mean "a radially expandable segment of a stent having a longitudinal length less than its diameter with a circumferential

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<sup>1</sup>See American Heritage Dictionary 741 (2d ed. 1984) (defining "longitudinal" as "of or pertaining to length"); *id.* at 513 (defining "flexible" as "capable of being bent or flexed; pliable").

<sup>2</sup>Plaintiffs argue that "to facilitate delivery through tortuous body lumens" is an unnecessary restriction. However, the intrinsic evidence supports the conclusion that having longitudinal flexibility alone is not enough to meet the restrictions of the Lau design; a stent must be flexible enough to be delivered through "tortuous body lumens" before it will be considered to meet the "longitudinally flexible" limitation of the Lau patents.

<sup>3</sup>See, e.g., '154 patent, col. 2, l. 67; col. 3, ll. 1-4; col. 5, ll. 44-51, 61-67; col. 6, ll. 8-16

<sup>4</sup>D.I. 438 at 1535, 1539-40

undulating pattern.<sup>5</sup> Furthermore, cylindrical rings are not in and of themselves, stents.”<sup>6</sup>

3. **“Independently expandable in the radial direction.”**

Consistent with the ordinary meaning to one of ordinary skill in the art and the patents at issue,<sup>7</sup> the court construes this phrase to mean “each cylindrical element is relatively independently expandable with respect to each adjacent cylindrical element.”

4. **“Connecting elements,” “connecting members,” “interconnecting elements” and “struts for connecting.”**

Consistent with the specifications of the patents at issue<sup>8</sup> and

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<sup>5</sup>The court has construed “undulating pattern” to mean “a wavelike pattern that includes any combination of U-shaped, W-shaped or Y-shaped members.” Defendants argue that the references to U-shaped, Y-shaped or W-shaped members in the written description refer only to a preferred embodiment. However, during the prosecution of the patent, the patentee continuously refers to these shaped structures in describing his invention and distinguishing it from others. Therefore, based on the prosecution history it is evident that, despite the references to the preferred embodiment in the written description, the patentee thought the cylindrical elements were defined by these shaped structures.

<sup>6</sup>Plaintiffs argue that the last sentence is not necessary. In light of the prosecution history, it is apparent that Lau disclaimed using the cylindrical elements as “stand-alone” stents. (D.I. 438 at 1539-40)

<sup>7</sup>See, e.g., ‘154 patent, col. 1, ll. 60-62; col. 4, ll. 52-55.

<sup>8</sup>D.I. 438 at 1535; D.I. 467, Ex. 46 at 1919.

their prosecution history,<sup>9</sup> the court construes these phrases to mean "segments of a stent that extend between adjacent cylindrical elements, connecting them together."

5. **"Interconnected," "connected together," "connected" and "attaching/attaches/attached."** Consistent with its ordinary meaning, the court construes these phrases to mean "connected."

6. **"Weld connection."** Consistent with the asserted claim at issue,<sup>10</sup> the specification<sup>11</sup> and the prosecution history,<sup>12</sup> the court construes "weld connection" to mean "a weld."

7. **"Generally parallel connecting elements."** Consistent with Federal Circuit precedent,<sup>13</sup> the court construes this phrase to mean "two or more connecting elements that are generally parallel to each other."

8. **"Outwardly projecting edges," and "projecting edges."** Consistent with the patents at issue<sup>14</sup> and their prosecution

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<sup>9</sup>See, e.g., '154 patent, col. 1, ll. 64-66; col. 2, ll. 1-6, 57-67.

<sup>10</sup>'168 patent, claim 1, col. 8, ll. 42-45.

<sup>11</sup>'168 patent, col. 2, ll. 65-67; col. 3, ll. 1-5.

<sup>12</sup>D.I. 467 at 1903-1920, 2093, 2098.

<sup>13</sup>See Advaced Cardiovascular Systems, Inc., et al. v. Scimed Life Systems, Inc. et al., 261 F.3d 1329 (Fed. Cir. 2001).

<sup>14</sup>See, e.g., '154 patent, col. 2, ll. 46-51; col. 4, ll. 10-12; col. 6, ll. 17-26; col. 8, ll. 14-23.

history,<sup>15</sup> the court construes "outwardly projecting edges" to mean "portions of the U-shaped, Y-shaped or W-shaped members that tip outwardly during expansion, resulting in projections on the outer surface of the expanded stent."

9. **"Without appreciable shortening."** Consistent with the prosecution history,<sup>16</sup> the court construes "without appreciable shortening" to mean "the stent does not substantially shorten upon expansion."

10. **"Undulating pattern," and "undulating portion."** Consistent with its ordinary meaning,<sup>17</sup> the patents at issue<sup>18</sup> and their prosecution history,<sup>19</sup> the court construes these phrases to mean "a wavelike pattern that includes any combination of U-shaped, W-shaped or Y-shaped members."

Sue L. Robinson  
United States District Judge

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<sup>15</sup>D.I. 438 at 1537.

<sup>16</sup>D.I. 438 at 1530-31, 38-39.

<sup>17</sup>See American Heritage Dictionary 1318 (2d ed. 1984).

<sup>18</sup>See, e.g., '154 patent, col. 2, ll. 67; col. 3, ll. 1-4; col. 5, ll. 44-51, 61-67; col. 6, ll. 8-16.

<sup>19</sup>D.I. 438 at 1535, 1539-40.