

**Supplemental Table 2. METHODOLOGY AND RESULTS OF CLINICAL TRIALS USING LVMPBC OR LVBPC**

| Variable                             | LVMPBC                                                    |                                |                                                     | LVBPC                                                                                                  |                                                                                                   |  |
|--------------------------------------|-----------------------------------------------------------|--------------------------------|-----------------------------------------------------|--------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------|--|
|                                      | Gentzkow et al, <sup>43</sup> 1991                        | Wood et al, <sup>44</sup> 1993 | Jerčinić et al, <sup>45</sup> 1994                  | Karba et al, <sup>46</sup> 1995                                                                        | Baker et al, <sup>47</sup> 1996                                                                   |  |
| PEDro scale score                    | 7                                                         | 7                              | 3                                                   | 4                                                                                                      | 5                                                                                                 |  |
| Total no. of patients/PIs            | 37/40                                                     | 74/74                          | 73/109                                              | 12/12; only adult men                                                                                  | 80/192                                                                                            |  |
| No. of patients/PIs in the ESG       | NR/21                                                     | 43/43                          | 42/61                                               | 6/6                                                                                                    | 20/67; sensory/asymmetric BC<br>21/58; sensory/symmetric BC;<br>20/42; below sensory threshold BC |  |
| No. of patients/PIs in the CG        | NR/19                                                     | 31/31                          | 31/48                                               | 6/6                                                                                                    | 19/25                                                                                             |  |
| Patient ages, y                      | 29-91                                                     | 42-95                          | 18-68                                               | NR. Patient ages ranged from 29 to 42 y                                                                |                                                                                                   |  |
| Patient age in the ESG, mean (SD), y | 63.3                                                      | 75.6                           | n/a                                                 |                                                                                                        | 1st ESG: 34 (2)<br>2nd ESG: 40 (2)<br>3rd ESG: 36 (2)                                             |  |
| Patient age in the CG, mean (SD), y  | 62.2                                                      | 74.9                           | n/a                                                 |                                                                                                        | 33 (4)                                                                                            |  |
| PI classification method             | NPUAP                                                     | n/a                            | n/a                                                 | n/a                                                                                                    | n/a                                                                                               |  |
| PI stages                            | 2-4                                                       | 2-3                            | NR (only initial surface area and depth were given) | n/a                                                                                                    | NR (only initial surface area was given)                                                          |  |
| No. of PIs by stage in the ESG       | 0/16/5 (2/3/4)                                            | n/a                            | n/a                                                 | n/a                                                                                                    | n/a                                                                                               |  |
| No. of PIs by stage in the CG        | 1/14/4 (2/3/4)                                            | n/a                            | n/a                                                 | n/a                                                                                                    | n/a                                                                                               |  |
| PI locations                         | Lower extremity (hip, ischium, sacrum, coccyx, leg, foot) | Lower extremity                | n/a                                                 | n/a                                                                                                    | Various sites (sacrum, ischium, thigh, foot, others)                                              |  |
| PI causes                            | n/a                                                       | n/a                            | SCI                                                 | SCI                                                                                                    | SCI                                                                                               |  |
| Wound healing criteria               | Healing rate                                              | Healing rate                   | WSA reduction, healing rate, PI depth, granulation  | Healing rate                                                                                           | WSA reduction, healing rate                                                                       |  |
| Treatment site                       | Medical/rehabilitation center and home care               | Medical/rehabilitation center  | Medical/rehabilitation centers                      | Medical/rehabilitation center                                                                          | Medical/rehabilitation center and home care                                                       |  |
| Treatment in the CG                  | SWC + sham LVMPBC                                         | SWC + sham LVMPBC              | SWC + sham LVBPC                                    | Semiocclusive foam gel dressings enhanced by stimulation with LVBPC in the absence of healing progress | SWC + sham LVBPC                                                                                  |  |

(continues)

**Supplemental Table 2. METHODOLOGY AND RESULTS OF CLINICAL TRIALS USING LVMPBC OR LVBPC, CONTINUED**

| LVMPBC                       |                                                                                                              |                                                                             | LVBPC                                        |                                              |                                                                                                                                                               |
|------------------------------|--------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------|----------------------------------------------|----------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Variable                     | Gentzkow et al, <sup>43</sup> 1991                                                                           | Wood et al, <sup>44</sup> 1993                                              | Jerčinović et al, <sup>45</sup> 1994         | Karba et al, <sup>46</sup> 1995              | Baker et al, <sup>47</sup> 1996                                                                                                                               |
| Treatment in the ESG         | SWC + LVMPBC                                                                                                 | SWC + LVMPBC                                                                | SWC + LVBPC                                  | Semi-occlusive foam gel dressing + LVBPC     | Sensory asymmetric LVBPC; sensory symmetric LVBPC; below sensory threshold, symmetric LVBPC                                                                   |
| Waveform type                | Rectangular                                                                                                  | n/a                                                                         | Biphasic, asymmetric, charge-balanced pulses | Biphasic, asymmetric, charge-balanced pulses | Rectangular, asymmetric, biphasic pulses (sensory); rectangular, symmetric, biphasic pulses (sensory); rectangular, biphasic pulses (below sensory threshold) |
| Pulse duration, $\mu$ s      | 140 at 128 pps and 132 at 64 pps                                                                             | n/a                                                                         | 250                                          | 250                                          | 100; 300; 10                                                                                                                                                  |
| Pulse frequency, pps         | First 128, reduced to 64 as PIs progressed to stage 2                                                        | 0.8                                                                         | 40 (on:off 4:4 s)                            | 40 (on:off 4:4 s)                            | 50 (on:off 7:7 s)<br>50 (on:off 7:7 s)<br>1 (on:off 7:7 s)                                                                                                    |
| Amperage or voltage          | 35 mA                                                                                                        | 600 $\mu$ A                                                                 | Max 35 mA                                    | Max 35 mA                                    | n/a (sensory, with no muscle contractions); n/a (sensory, with no muscle contractions); 4 mA (below sensory threshold)                                        |
| Charge                       | 0.89 C per 30 min (1.78 C per day)                                                                           | n/a                                                                         | n/a                                          | n/a                                          | n/a                                                                                                                                                           |
| Frequency ES                 | Sensory, with no visible muscle contraction                                                                  | n/a (at 600 $\mu$ A, probably below sensory threshold)                      | Eliciting minimal muscle contractions        | Eliciting minimal muscle contractions        | Sensory (with no muscle contraction); sensory (with no muscle contraction); below sensory threshold                                                           |
| Location of the electrodes   | Treatment electrode, placed on the wound; dispersive electrode, on intact skin at least 12 in from the wound | Opposite wound edges                                                        | Opposite wound edges                         | Opposite wound edges                         | Opposite wound edges                                                                                                                                          |
| Treatment electrode polarity | Cathodal polarity until a PI debried, then alternating every 3 d with anodal polarity                        | Both electrodes (anode and cathode) were placed on the opposite wound edges | Alternating (BC)                             | Alternating (BC)                             | Alternating (BC)                                                                                                                                              |
| Duration of an ES session    | 30 min                                                                                                       | n/a                                                                         | 2 h                                          | 2 h                                          | 30 min                                                                                                                                                        |
| Frequency of ES sessions     | Twice daily, 7 d/wk                                                                                          | 3 d/wk                                                                      | Once daily, 5 d/wk                           | Once daily, 7 d/wk                           | Three times daily, 5 d/wk                                                                                                                                     |
| Weekly duration of ES, h     | 7                                                                                                            | n/a                                                                         | 10                                           | 14                                           | 7.5                                                                                                                                                           |
| Duration of intervention     | 4 wk                                                                                                         | 8 wk                                                                        | 4 wk                                         | 35-98 d (until PIs healed)                   | 4 wk                                                                                                                                                          |
| Total ES time, h             | 28                                                                                                           | n/a                                                                         | 40                                           | 70-196                                       | 30                                                                                                                                                            |

(continues)

**Supplemental Table 2. METHODOLOGY AND RESULTS OF CLINICAL TRIALS USING LVMPBC OR LVBPC, CONTINUED**

| Variable | LVMPBC                                                                                                                                                                                  |                                                                                                                                                                                                                                            |                                                                                                                                           |                                                                                                                                                                                                                                                                                                                                                                                                  | LVBPC                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |  |
|----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
|          | Gentzkow et al, <sup>43</sup> 1991                                                                                                                                                      | Wood et al, <sup>44</sup> 1993                                                                                                                                                                                                             | Jerčiniović et al, <sup>45</sup> 1994                                                                                                     | Karba et al, <sup>46</sup> 1995                                                                                                                                                                                                                                                                                                                                                                  | Baker et al, <sup>47</sup> 1996                                                                                                                                                                                                                                                                                                                                                                                                                                        |  |
| Results  | <p>PIs in the ESG healed more than twice as often as those in the CG (49.8% vs. 23.4%, <math>P = .042</math>). In the ESG, PIs healed 12.5% per week compared with 5.8% for the CG.</p> | <p>At week 8, 25 PIs (58%) in the ESG were completely healed, and the WSA of 31 PIs (72.9%) decreased 80%; in the CG, only one PI healed (3%), and four PIs had decreased 80%. Ten PIs in the CG increased in size vs none in the ESG.</p> | <p>Mean healing rates in the ESG in the first 4 wk were 2.2% and 5.7% per day, respectively; in the CG, the rates were 1.5% and 2.7%.</p> | <p>In the CG, PIs increased in size by a mean of <math>0.66\% \pm 1.16\%</math> per d. After LVBPC was introduced, they started to decrease by a mean of <math>2.93\% \pm 1.01\%</math> per d. In the ESG, PIs decreased in size by a mean of <math>7.13\% \pm 1.46\%</math> per d. The healing rate of wounds treated with LVBPC was greater than that of the CG (<math>P &lt; .05</math>).</p> | <p>Weekly healing rates of PIs treated with sensory, asymmetric LVBPC, sensory symmetric LVBPC, and LVBPC below sensory threshold were 36.4%, 29.7%, and 23.3%, respectively. The weekly healing rate in the CG was 32.7%/wk. The therapeutic effect of a sensory asymmetric current was statistically significantly better than the below-sensory threshold LVBPC and the CG. There was no statistical difference between sensory symmetric and asymmetric LVBPC.</p> |  |

Abbreviations: BC, biphasic current; CG, control group; ES, electrical stimulation; ESG, electrical stimulation group; LVBPC, low-voltage biphasic pulsed current; LVMPBC, low-voltage monophasic pulsed current; n/a, not applicable; NPUAP, National Pressure Ulcer Advisory Panel; NR, not reported; PEDro, Physiotherapy Evidence Database; PI, pressure injury; SCI, spinal cord injury; SWC, standard wound care; WSA, wound surface area.