

### BONUS MATERIAL REFERENCES

- <sup>1</sup>Vreeland, D.L., A. Reader, M. Beck, W. Meyers, and J. Weaver, An evaluation of volumes and concentrations of lidocaine in human inferior alveolar nerve block. *J Endod*, 15, 1989.
- <sup>2</sup>McLean, C., A. Reader, M. Beck, and W.J. Meyers, An evaluation of 4% prilocaine and 3% mepivacaine compared with 2% lidocaine (1:100,000 epinephrine) for inferior alveolar nerve block. *J Endod*, 19, 1993.
- <sup>3</sup>Chaney, M.A., R. Kerby, A. Reader, F.M. Beck, W.J. Meyers, and J. Weaver, An evaluation of lidocaine hydrocarbonate compared with lidocaine hydrochloride for inferior alveolar nerve block. *Anesth Prog*, 38, 1991.
- <sup>4</sup>Hinkley, S.A., A. Reader, M. Beck, and W.J. Meyers, An evaluation of 4% prilocaine with 1:200,000 epinephrine and 2% mepivacaine with 1:20,000 levonordefrin compared with 2% lidocaine with:100,000 epinephrine for inferior alveolar nerve block. *Anesth Prog*, 38, 1991.
- <sup>5</sup>Dreven, L.J., A. Reader, M. Beck, W.J. Meyers, and J. Weaver, An evaluation of an electric pulp tester as a measure of analgesia in human vital teeth. *J Endod*, 13, 1987.
- <sup>6</sup>Certosimo, A. and R. Archer, A clinical evaluation of the electric pulp tester as an indicator of local anesthesia. *Oper Dent*, 21, 1996.
- <sup>7</sup>Loetscher, C., D. Melton, and R. Walton, Injection regimen for anesthesia of the maxillary first molar. *J Am Dent Assoc*, 117, 1988.
- <sup>8</sup>Jones, V.R., E.M. Rivera, and R.E. Walton, Comparison of carbon dioxide versus refrigerant spray to determine pulpal responsiveness. *J Endod*, 28, 2002.
- <sup>9</sup>Nusstein, J., A. Reader, R. Nist, M. Beck, and W.J. Meyers, Anesthetic efficacy of the supplemental intraosseous injection of 2% lidocaine with 1:100,000 epinephrine in irreversible pulpitis. *J Endod*, 24, 1998.
- <sup>10</sup>Hsiao-Wu, G., Susarla, SM, White, RR, Use of the cold test as a measure of pulpal anesthesia during endodontic therapy: A randomized, blinded, placebo-controlled clinical trail. *J Endod*, 33, 2007.
- <sup>11</sup>Reisman, D., A. Reader, R. Nist, M. Beck, and J. Weaver, Anesthetic efficacy of the supplemental intraosseous injection of 3% mepivacaine in irreversible pulpitis. *Oral Surg Oral Med Oral Pathol Oral Radiol Endod*, 84, 1997.
- <sup>12</sup>Cohen, H., B. Cha, and L. Spangberg, Endodontic anesthesia in mandibular molars: A clinical study. *J Endod*, 19, 1993.

- <sup>13</sup>Kaufman, E., P. Weinstein, and P. Milgrom, Difficulties in achieving local anesthesia. *J Am Dent Assoc*, 108, 1984.
- <sup>14</sup>Wallace, J.A., A.E. Michanowicz, R.D. Mundell, and E.G. Wilson, A pilot study of the clinical problem of regionally anesthetizing the pulp of an acutely inflamed mandibular molar. *Oral Surg Oral Med Oral Pathol* 59, 1985.
- <sup>15</sup>Byers, M.R., P.E. Taylor, B.G. Khayat, and C.L. Kimberly, Effects of injury and inflammation on pulpal and periapical nerves. *J Endod*, 16, 1990.
- <sup>16</sup>Roy, M. and T. Nakanishi, Differential properties of tetrodotoxin-sensitive and tetrodotoxin-resistant sodium channels in rat dorsal root ganglion neurons. *J Neurosci*, 12, 1992.
- <sup>17</sup>Sorensen, H., L. Skidmore, R. Rzasa, Kleier S, S. Levinson, and M. Henry, Comparison of pulpal sodium channel density in normal teeth to diseased teeth with severe spontaneous pain. *J Endod*, 30, 2004.
- <sup>18</sup>Parente, S.A., R.W. Anderson, W.W. Herman, W.F. Kimbrough, and R.N. Weller, Anesthetic efficacy of the supplemental intraosseous injection for teeth with irreversible pulpitis. *J Endod*, 24, 1998.
- <sup>19</sup>Nusstein, J., S. Kennedy, A. Reader, M. Beck, and J. Weaver, Anesthetic efficacy of the supplemental X-tip intraosseous injection in patients with irreversible pulpitis. *J Endod*, 29, 2003.
- <sup>20</sup>Hannan, L., A. Reader, R. Nist, M. Beck, and W.J. Meyers, The use of ultrasound for guiding needle placement for inferior alveolar nerve blocks. *Oral Surg Oral Med Oral Pathol Oral Radiol Endod*, 87, 1999.
- <sup>21</sup>Wali, M., A. Reader, M. Beck, and W. Meyers, Anesthetic efficacy of lidocaine and epinephrine in human inferior alveolar nerve blocks. *J Endod*, 14, 1988.
- <sup>22</sup>Simon, F., A. Reader, W. Meyers, M. Beck, and R. Nist, Evaluation of a peripheral nerve stimulator in human mandibular anesthesia. *J Dent Res*, 69, 1990.
- <sup>23</sup>Fernandez C, Reader A, Beck M, and Nusstein J, A prospective, randomized, double-blind comparison of bupivacaine and lidocaine for inferior alveolar nerve blocks. *J Endod*, 31, 2005.
- <sup>24</sup>Nusstein, J., A. Reader, and F.M. Beck, Anesthetic efficacy of different volumes of lidocaine with epinephrine for inferior alveolar nerve blocks. *Gen Dent*, 50, 2002.
- <sup>25</sup>Agren, E. and K. Danielsson, Conduction block analgesia in the mandible. A comparative investigation of the techniques of Fischer and Gow-Gates. *Swed Dent J*, 5, 1981.
- <sup>26</sup>Malamed, S., *Handbook of Local Anesthesia*. Vol. 5. 2004, St Louis: Mosby. 41, 65, 72, 237, 242.

- <sup>27</sup>Guglielmo, A., A. Reader, R. Nist, M. Beck, and J. Weaver, Anesthetic efficacy and heart rate effects of the supplemental intraosseous injection of 2% mepivacaine with 1:20,000 levonordefrin. *Oral Surg Oral Med Oral Pathol Oral Radiol Endod*, 87, 1999.
- <sup>28</sup>Malamed, S.F., S. Gagnon, and D. Leblanc, Articaine hydrochloride: a study of the safety of a new amide local anesthetic. *J Am Dent Assoc*, 132, 2001.
- <sup>29</sup>Wright, G., S. Weinberger, C. Friedman, and O. Plotzke, The use of articaine local anesthesia in children under 4 years of age--a retrospective report. *Anesth Prog*, 36, 1989.
- <sup>30</sup>Hidding, J. and F. Khoury, General complications in dental local anesthesia. *Dtsch Zahnarztl Z*, 46, 1991.
- <sup>31</sup>Moller, R. and B. Covino, Cardiac electrophysiologic effects of articaine compared with bupivacaine and lidocaine. *Anesth Analg*, 76, 1993.
- <sup>32</sup>Jakobs, W., B. Ladwig, P. Cichon, R. Ortel, and W. Kirch, Serum levels of articaine 2% and 4% in children. *Anesth Prog*, 42, 1995.
- <sup>33</sup>Daublander, M., R. Muller, and M. Lipp, The incidence of complications associated with local anesthesia in dentistry. *Anesth Prog*, 44, 1997.
- <sup>34</sup>Simon, M., M. Gielen, N. Alberink, T. Vree, and J. van Egmond, Intravenous regional anesthesia with 0.5% articaine, 0.5% lidocaine, or 0.5% prilocaine. A double-blind randomized clinical study. *Reg Anesth*, 22, 1997.
- <sup>35</sup>Oertel, R., U. Ebert, R. Rahn, and W.T. Kirch, The effect of age on pharmacokinetics of the local anesthetic drug articaine. *Reg Anesth Pain Med*, 24, 1999.
- <sup>36</sup>Malamed, S., S. Gagnon, and D. Leblanc, A comparison between articaine HCl and lidocaine HCl in pediatric dental patients. *Pediatr Dent*, 22, 2000.
- <sup>37</sup>Wilburn-Goo, D. and L. Lloyd, When patients become cyanotic: acquired methemoglobinemia. *J Am Dent Assoc*, 130, 1999.
- <sup>38</sup>Haas, D.A. and D. Lennon, A 21 year retrospective study of reports of paresthesia following local anesthetic administration. *J Can Dent Assoc*, 61, 1995.
- <sup>39</sup>Miller, P. and D. Lennon, Incidence of local anesthetic-induced neuropathies in Ontario from 1994-1998. *J Dent Res*, Abstract (3869):627, 2000.
- <sup>40</sup>Pogrel, M., Permanent nerve damage from inferior alveolar nerve blocks - an update to include articaine. *Calif Dent J*, 35, 2007.
- <sup>41</sup>Malamed, S., Articaine versus lidocaine: the author responds. *Calif Dent J*, 35, 2007.
- <sup>42</sup>Schertzer, E. and S. Malamed, Articaine vs. Lidocaine. *J Am Dent Assoc*, 131, 2000.

- <sup>43</sup>Malamed, S., S. Gagnon, and D. Leblanc, Efficacy of articaine: a new amide local anesthetic. *J Am Dent Assoc*, 131, 2000.
- <sup>44</sup>Donaldson, D., L. James-Perdok, B. Craig, G. Derkson, and A. Richardson, A comparison of Ultracaine DS (articaine HCl) and Citanest forte (prilocaine HCl) in maxillary infiltration and mandibular nerve block. *J Can Dent Assoc*, 53, 1987.
- <sup>45</sup>Haas, D., D. Harper, M. Saso, and E. Young, Comparison of articaine and prilocaine anesthesia by infiltration in maxillary and mandibular arches. *Anesth Prog*, 37, 1990.
- <sup>46</sup>Haas, D., D. Harper, M. Saso, and E. Young, Lack of differential effect by Ultracaine (articaine) and Citanest (prilocaine) in infiltration anesthesia. *J Can Dent Assoc*, 57, 1991.
- <sup>47</sup>Vahatalo, K., H. Antila, and R. Lehtinen, Articaine and lidocaine for maxillary infiltration anesthesia. *Anesth Prog*, 40, 1993.
- <sup>48</sup>Wright, G., S. Weinberger, R. Marti, and O.-. Plotzke, The effectiveness of infiltration anesthesia in the mandibular primary molar region. *Pediatr Dent*, 13, 1991.
- <sup>49</sup>Mikesell, P., J. Nusstein, A. Reader, M. Beck, and J. Weaver, A comparison of articaine and lidocaine for inferior alveolar nerve blocks. *J Endod*, 31, 2005.
- <sup>50</sup>Claffey, E., A. Reader, J. Nusstein, M. Beck, and J. Weaver, Anesthetic efficacy of articaine for inferior alveolar nerve blocks in patients with irreversible pulpitis. *J Endod*, 30, 2004.
- <sup>51</sup>Tofoli GR, Ramacciato JC, de Oliveira PC, Volpato MC, et al., Comparison of effectiveness of 4% articaine associated with 1:100,000 or 1:200,000 epinephrine in inferior alveolar nerve block. *Anesth Prog*, 50, 2003.
- <sup>52</sup>Moore PA, B.S., Hersh EV, et al., Dental anesthesia using 4% articaine 1:200,000 epinephrine: Two clinical trials. *J Am Dent Assoc*, 137, 2006.
- <sup>53</sup>Moore PA, D.B., Delie RA, Hersh EV, Korostoff J, Johnson S, Goodson JM, Halem S, Palys M, Leonel JS, Kozlowski VA, Peterson C, Hutcheson M, Hemostatic and anesthetic efficacy of 4% articaine HCL with 1:200,000 epinephrine and 4% articaine with 1:100,000 epinephrine when administered intraorally for periodontal surgery. *J Periodontol*, 78, 2007.
- <sup>54</sup>Davis, W., J. Oakley, and E. Smith, Comparison of the effectiveness of etidocaine and lidocaine as local anesthetic agents during oral surgery. *Anesth Prog*, 31, 1984.
- <sup>55</sup>Rosenquist, J., K. Rosenquist, and P. Lee, Comparison between lidocaine and bupivacaine as local anesthetics with diflunisal for postoperative pain control after lower third molar surgery. *Anesth Prog*, 35, 1988.
- <sup>56</sup>Dunsky, J.L. and P.A. Moore, Long-acting local anesthetics: a comparison of bupivacaine and etidocaine in endodontics. *J Endod*, 10, 1984.

- <sup>57</sup>Moore, P.A. and J.L. Dunsky, Bupivacaine anesthesia--a clinical trial for endodontic therapy. *Oral Surg, Oral Med, Oral Pathol*, 55, 1983.
- <sup>58</sup>Linden, E., H. Abrams, J. Matheny, A. Kaplan, R. Kopczyk, and S. Jasper, A comparison of postoperative pain experience following periodontal surgery using two local anesthetic agents. *J Periodontol*, 57, 1986.
- <sup>59</sup>Crout, R.J., G. Koraido, and P.A. Moore, A clinical trial of long-acting local anesthetics for periodontal surgery. *Anesth Prog*, 37, 1990.
- <sup>60</sup>Kennedy, M., A. Reader, M. Beck, and J. Weaver, Anesthetic efficacy of ropivacaine in maxillary anterior infiltration. *Oral Surg Oral Med Oral Pathol Oral Radiol Endod*, 91, 2001.
- <sup>61</sup>El-Sharrawy, E. and J. Yagiela, Anesthetic efficacy of different ropivacaine concentrations for inferior alveolar nerve block. *Anesth Prog*, 53, 2006.
- <sup>62</sup>Branco, F., J. Ranali, G. Ambrosano, and M. Volpato, A double-blind comparison of 0.5% bupivacaine with 1:200,000 epinephrine and 0.5% levobupivacaine with 1:200,000 epinephrine for inferior alveolar nerve block. *Oral Surg Oral Med Oral Pathol*, 101, 2006.
- <sup>63</sup>Gow-Gates, G., Mandibular conduction anesthesia: A new technique using extra-oral landmarks. *Oral Surg Oral Med Oral Pathol*, 36, 1973.
- <sup>64</sup>Malamed, S., The Gow-Gates mandibular block. Evaluation after 4,275 cases. *Oral Surg Oral Med Oral Pathol*, 51, 1981.
- <sup>65</sup>Todorovic, L., Z. Stajcic, and V. Petrovic, Mandibular versus inferior alveolar dental anesthesia: clinical assessment of 3 different techniques. *Int J Oral Maxillofac Surg*, 15, 1986.
- <sup>66</sup>Goldberg, S., A. Reader, M. Drum, J. Nusstein, and M. Beck, A Comparison of the Anesthetic Efficacy of the Conventional Inferior Alveolar, Gow-Gates and Vazirani-Akinosi Techniques. *J Endod*, 2008, in press.
- <sup>67</sup>Montagnese, T.A., A. Reader, and R. Melfi, A comparative study of the Gow-Gates technique and a standard technique for mandibular anesthesia. *J Endod*, 10, 1984.
- <sup>68</sup>Hung, P., H. Chang, P. Yang, Y. Kuo, W. Lan, and C. Lin, Comparison of the Gow-Gates mandibular block and inferior alveolar nerve block using a standardized protocol. *J Formos Med Assoc*, 105, 2006.
- <sup>69</sup>Akinosi, J., A new approach to the mandibular nerve block. *Br J Oral Surg*, 15, 1977.
- <sup>70</sup>Sisk, A., Evaluation of the Akinosi mandibular block technique in oral surgery. *Oral Maxillofac Surg*, 44, 1986.
- <sup>71</sup>Yucel, E. and I. Hutchison, A comparative evaluation of the conventional and closed mouth technique for inferior alveolar nerve block. *Aust Dent J*, 40, 1995.

- <sup>72</sup>Martinez, G., P. Benito, C. Fernandez, M. San Hipolito, and D. Penarrocha, A comparative study of direct mandibular nerve block and the Akinosi technique. *Med Oral*, 8, 2003.
- <sup>73</sup>Jacobs, S., D. Haas, J. Meechan, and S. May, Injection pain: comparison of three mandibular block techniques and modulation by nitrous oxide:oxygen. *J Am Dent Assoc*, 134, 2003.
- <sup>74</sup>Nist, R.A., A. Reader, M. Beck, and W.J. Meyers, An evaluation of the incisive nerve block and combination inferior alveolar and incisive nerve blocks in mandibular anesthesia. *J Endod*, 18, 1992.
- <sup>75</sup>Joyce, A.P. and J.C. Donnelly, Evaluation of the effectiveness and comfort of incisive nerve anesthesia given inside or outside the mental foramen. *J Endod*, 19, 1993.
- <sup>76</sup>Yonchak, T., A. Reader, M. Beck, K. Clark, and W.J. Meyers, Anesthetic efficacy of infiltrations in mandibular anterior teeth. *Anesth Prog*, 48, 2001.
- <sup>77</sup>Meechan, J. and J. Ledvinka, Pulpal anesthesia for mandibular central incisor teeth: a comparison of infiltration and intraligamentary injections. *Int Endod J*, 35, 2002.
- <sup>78</sup>Meechan, J., M. Kanaa, I. Corbett, I. Steen, and J. Whitworth, Pulpal anesthesia for mandibular permanent first molar teeth; a double-blind randomized cross-over trial comparing buccal and buccal plus lingual infiltration injections in volunteers. *Int Endod J*, 39, 2006.
- <sup>79</sup>Clark, K., A. Reader, M. Beck, and W. Meyers, Anesthetic efficacy of an infiltration injection in mandibular anterior teeth following an inferior alveolar nerve block. *Anesth Prog*, 49, 2002.
- <sup>80</sup>Foster, W., M. McCartney, A. Reader, and M. Beck, Anesthetic efficacy of buccal and lingual infiltrations of lidocaine following an inferior alveolar nerve block in mandibular posterior teeth. *Anesth Prog*, 54, 2007.
- <sup>81</sup>Kanaa, M., J. Whitworth, I. Corbett, and J. Meechan, Articaine and lidocaine mandibular buccal infiltration anesthesia; a prospective randomized double-blind cross-over study. *J Endod*, 32, 2006.
- <sup>82</sup>Jung IY, K.J., Kim ES, Lee CY, Lee SJ, An evaluation of buccal infiltrations and inferior alveolar nerve blocks in pulpal anesthesia for mandibular first molars. *J Endod*, 34, 2008.
- <sup>83</sup>Robertson, D., Nusstein J, Reader A., Beck M, Anesthetic efficacy of articaine and lidocaine in buccal infiltration injections of the mandibular first molar. *J Am Dent Assoc*, 138, 2007.
- <sup>84</sup>Haase A, R.A., Nusstein J, Beck M, Drum M, Comparative anesthetic efficacy of articaine versus lidocaine as a supplemental buccal infiltration of the mandibular first molar following IAN block. *J Am Dent Assoc*, 139, 2008.
- <sup>85</sup>Rosenberg PA., A.K., Zibari Y, Lin LM, Comparison of 4% articaine with 1:100,000 epinephrine and 2% lidocaine with 1:100,000 epinephrine when used as a supplemental anesthetic. *J Endod*, 33, 2007.

- <sup>86</sup>Matthews, M., Drum M, Reader A, Nusstein J, Beck M., Articaine for supplemental, buccal mandibular infiltration anesthesia in patients with irreversible pulpitis. *J Endod*, In press, 2009.
- <sup>87</sup>Yared, G.M. and F.B. Dagher, Evaluation of lidocaine in human inferior alveolar nerve block. *J Endod*, 23, 1997.
- <sup>88</sup>Clark, S., A. Reader, M. Beck, and W.J. Meyers, Anesthetic efficacy of the mylohyoid nerve block and combination inferior alveolar nerve block/mylohyoid nerve block. *Oral Surg Oral Med Oral Pathol Oral Radiol Endod*, 87, 1999.
- <sup>89</sup>Yonchak, T., A. Reader, M. Beck, and W.J. Meyers, Anesthetic efficacy of unilateral and bilateral inferior alveolar nerve blocks to determine cross innervation in anterior teeth. *Oral Surg Oral Med Oral Pathol Oral Radiol Endod*, 92, 2001.
- <sup>90</sup>Dagher, F.B., G.M. Yared, and P. Machtou, An evaluation of 2% lidocaine with different concentrations of epinephrine for inferior alveolar nerve block. *J Endod*, 23, 1997.
- <sup>91</sup>Meyer, R. and W. Jakubowski, Use of tripelenamine and diphenhydramine as local anesthetics. *J Am Dent Assoc*, 69, 1964.
- <sup>92</sup>Welborn, J. and J. Kane, Conduction anesthesia using diphenhydramine HCL. *J Am Dent Assoc*, 69, 1964.
- <sup>93</sup>Willett J, Reader A, Drum M, J. Nusstein, and Beck M, The anesthetic efficacy of diphenhydramine and the combination of diphenhydramine/lidocaine for the inferior alveolar nerve block. *J Endod*, 34, 1446-50; 2009.
- <sup>94</sup>Frommer, J., F. Mele, and C. Monroe, The possible role of the mylohyoid nerve in mandibular posterior tooth sensation. *J Am Dent Assoc*, 85, 1972.
- <sup>95</sup>Wilson, S., P. Johns, and P. Fuller, The inferior alveolar and mylohyoid nerves: An anatomic study and relationship to local anesthesia of the anterior mandibular teeth. *J Am Dent Assoc*, 108, 1984.
- <sup>96</sup>Berns, J. and M. Sadove, Mandibular block injection: a method of study using an injected radiopaque material. *J Am Dent Assoc*, 65, 1962.
- <sup>97</sup>Galbreath, J., Tracing the course of the mandibular block injection. *Oral Surg Oral Med Oral Pathol*, 30, 1970.
- <sup>98</sup>Cooley, R. and S. Robison, Comparative evaluation of the 30-gauge dental needle. *Oral Surg Oral Med Oral Pathol*, 48, 1979.
- <sup>99</sup>Davidson, M., Bevel-oriented mandibular injections: needle deflection can be beneficial. *Gen Dent*, 37, 1989.

- <sup>100</sup>Hochman, M. and M. Friedman, In vitro study of needle deflection: a linear insertion technique versus a bidirectional rotation insertion technique. *Quintessence Int*, 31, 2000.
- <sup>101</sup>Aldous, J., Needle deflection: a factor in the administration of local anesthetics. *J Am Dent Assoc*, 77, 1968.
- <sup>102</sup>Robison, S., R. Mayhew, R. Cowan, and R. Hawley, Comparative study of deflection characteristics and fragility of 25-, 27-, and 30-gauge short dental needles. *J Am Dent Assoc*, 109, 1984.
- <sup>103</sup>Jeske, A. and B. Boshart, Deflection of conventional versus nondeflecting dental needles in vitro. *Anesth Prog*, 32, 1985.
- <sup>104</sup>Kennedy, S., A. Reader, J. Nusstein, M. Beck, and J. Weaver, The significance of needle deflection in success of the inferior alveolar nerve block in patients with irreversible pulpitis. *J Endod*, 29, 2003.
- <sup>105</sup>Steinkruger G, Nusstein J, Reader A, Beck M, and Weaver J, The significance of needle bevel orientation in success of the inferior alveolar nerve block. *J Am Dent Assoc*, 137, 2006.
- <sup>106</sup>Rood, J., The nerve supply of the mandibular incisor region. *Brit Dent J*, 143, 1977.
- <sup>107</sup>DeJong, R., Neural blockade by local anesthetics. *J Am Dent Assoc*, 238, 1997.
- <sup>108</sup>Strichartz, G., Molecular mechanisms of nerve block by local anesthetics. *Anesthesiology*, 45, 1967.
- <sup>109</sup>Childers, M., A. Reader, R. Nist, M. Beck, and W.J. Meyers, Anesthetic efficacy of the periodontal ligament injection after an inferior alveolar nerve block. *J Endod*, 22, 1996.
- <sup>110</sup>Dunbar, D., A. Reader, R. Nist, M. Beck, and W.J. Meyers, Anesthetic efficacy of the intraosseous injection after an inferior alveolar nerve block. *J Endod*, 22, 1996.
- <sup>111</sup>Stabile, P., A. Reader, E. Gallatin, M. Beck, and J. Weaver, Anesthetic efficacy and heart rate effects of the intraosseous injection of 1.5% etidocaine (1:200,000 epinephrine) after an inferior alveolar nerve block. *Oral Surg Oral Med Oral Pathol Oral Radiol Endod*, 89, 2000.
- <sup>112</sup>Gallatin, E., P. Stabile, A. Reader, R. Nist, and M. Beck, Anesthetic efficacy and heart rate effects of the intraosseous injection of 3% mepivacaine after an inferior alveolar nerve block. *Oral Surg Oral Med Oral Pathol Oral Radiol Endod*, 89, 2000.
- <sup>113</sup>Kanaa, M., J. Meechan, I. Corbett, and J. Whitworth, Speed of injection influences efficacy of inferior alveolar nerve blocks: a double-blind randomized controlled trial in volunteers. *J Endod*, 32, 2006.
- <sup>114</sup>Oztas N, Ulusu T, Bodur H, and Dougan C., The wand in pulp therapy: an alternative to inferior alveolar nerve block. *Quint Inter*, 36, 2005.
- <sup>115</sup>Dumbridge HB, Lim MV, Rudman RA, and Serrano A., A comparative study of anesthetic techniques for mandibular extractions. *Am J Dent*, 10, 1997.



- <sup>116</sup>Malamed, S., The periodontal ligament (PDL) injection: an alternative to inferior alveolar nerve block. *Oral Surg Oral Med Oral Pathol*, 53, 1982.
- <sup>117</sup>Kaufman, E., D. Galili, and A. Garfunkel, Intraligamentary anesthesia: a clinical study. *J Pros Dent*, 49, 1983.
- <sup>118</sup>White, J.J., A. Reader, M. Beck, and W.J. Meyers, The periodontal ligament injection: a comparison of the efficacy in human maxillary and mandibular teeth. *J Endod*, 14, 1988.
- <sup>119</sup>Walton, R. and B. Abbott, Periodontal ligament injection: a clinical evaluation. *J Am Dent Assoc*, 103, 1981.
- <sup>120</sup>Smith, G., R. Walton, and B. Abbott, Clinical evaluation of periodontal ligament anesthesia using a pressure syringe. *J Am Dent Assoc*, 107, 1983.
- <sup>121</sup>Berlin, J., J. Nusstein, A. Reader, M. Beck, and J. Weaver, Efficacy of articaine and lidocaine in a primary intraligamentary injection administered with a computer-controlled local anesthetic delivery system. *Oral Surg Oral Med Oral Pathol Oral Radiol Endod*, 99, 2005.
- <sup>122</sup>Nusstein, J., E. Claffey, A. Reader, M. Beck, and J. Weaver, Anesthetic effectiveness of the supplemental intraligamentary injection, administered with a computer-controlled local anesthetic delivery system, in patients with irreversible pulpitis. *J Endod*, 31, 2005.
- <sup>123</sup>Hochman, M., Single-tooth anesthesia: Pressure-sensing technology provides innovative advancement in the field of dental local anesthesia. *Compendium*, 28, 2007.
- <sup>124</sup>Nusstein, J., M. Wood, A. Reader, M. Beck, and J. Weaver, Comparison of the degree of pulpal anesthesia achieved with the intraosseous injection and infiltration injection using 2% lidocaine with 1:100,000 epinephrine. *Gen Dent*, 53, 2005.
- <sup>125</sup>Reemers T, Glickman, G., Spears R, He J., The efficacy of the IntraFlow intraosseous injection as a primary anesthesia technique. *J Endod*, 34, 2008.
- <sup>126</sup>Coggins, R., A. Reader, R. Nist, M. Beck, and W.J. Meyers, Anesthetic efficacy of the intraosseous injection in maxillary and mandibular teeth. *Oral Surg Oral Med Oral Pathol Oral Radiol Endod*, 81, 1996.
- <sup>127</sup>Gallatin, J., A. Reader, J. Nusstein, M. Beck, and J. Weaver, A comparison of two intraosseous anesthetic techniques in mandibular posterior teeth. *J Am Dent Assoc*, 134, 2003.
- <sup>128</sup>Reitz, J., A. Reader, R. Nist, M. Beck, and W.J. Meyers, Anesthetic efficacy of the intraosseous injection of 0.9 mL of 2% lidocaine (1:100,000 epinephrine) to augment an inferior alveolar nerve block. *Oral Surg Oral Med Oral Pathol Oral Radiol Endod*, 86, 1998.
- <sup>129</sup>Reitz, J., A. Reader, R. Nist, M. Beck, and W.J. Meyers, Anesthetic efficacy of a repeated intraosseous injection given 30 min following an inferior alveolar nerve block/intraosseous injection. *Anesth Prog*, 45, 1998.

- <sup>130</sup>Repogle, K., A. Reader, R. Nist, M. Beck, J. Weaver, and W.J. Meyers, Anesthetic efficacy of the intraosseous injection of 2% lidocaine (1:100,000 epinephrine) and 3% mepivacaine in mandibular first molars. *Oral Surg Oral Med Oral Pathol Oral Radiol Endod*, 83, 1997.
- <sup>131</sup>Bigby J, Reader A, Nusstein J, Beck M, and Weaver J., Articaine for supplemental intraosseous anesthesia in patients with irreversible pulpitis. *J Endod*, 32, 2006.
- <sup>132</sup>Hull, T. and B. Rothwell, Intraosseous anesthesia comparing lidocaine and etidocaine. *J Dent Res*, 77, 1998.
- <sup>133</sup>Jensen J, N.J., Drum M, Reader A, Beck M, Anesthetic efficacy of a repeated intraosseous injection following a primary intraosseous injection. *J Endod*, 34, 2008.
- <sup>134</sup>Andersson, C., Local anesthesia for infants undergoing circumcision. *J Am Med Assoc*, 279, 1998.
- <sup>135</sup>Repogle, K., A. Reader, R. Nist, M. Beck, J. Weaver, and W.J. Meyers, Cardiovascular effects of intraosseous injections of 2 percent lidocaine with 1:100,000 epinephrine and 3 percent mepivacaine. *J Am Dent Assoc*, 130, 1999.
- <sup>136</sup>Chamberlain, T., R. Davis, D. Murchison, S. Hansen, and B. Richardson, Systemic effects of an intraosseous injection of 2% lidocaine with 1:100,000 epinephrine. *Gen Dent*, May-June, 2000.
- <sup>137</sup>Wood, M., A. Reader, J. Nusstein, M. Beck, D. Padgett, and J. Weaver, Comparison of intraosseous and infiltration injections for venous lidocaine blood concentrations and heart rate changes after injection of 2% lidocaine with 1:100,000 epinephrine. *J Endod*, 31, 2005.
- <sup>138</sup>Susi L, Reader A, Nusstein J, Beck M, and Weaver J, Heart rate effects of intraosseous injections using slow and fast rates. *Anesth Prog*, 55, 2008.
- <sup>139</sup>Danielsson, K., H. Evers, and A. Nordenram, Long-acting local anesthetics in oral surgery: An experimental evaluation of bupivacaine and etidocaine for oral infiltration anesthesia. *Anesth Prog*, 32, 1985.
- <sup>140</sup>Gross R, McCartney M, Reader A, Beck M., A prospective, randomized, double-blind comparison of bupivacaine and lidocaine for maxillary infiltrations. *J Endod*, 33, 2007.
- <sup>141</sup>Bacsik, C., J. Swift, and K. Hargreaves, Toxic systemic reactions of bupivacaine and etidocaine. *Oral Surg Oral Med Oral Pathol Oral Radiol Endod*, 79, 1995.
- <sup>142</sup>Ingle, J. and L. Bakland, *Endodontics*, ed. J. Ingle and L. Bakland. Vol. 5. 2002, Hamilton, Ontario: BC Decker. 391.
- <sup>143</sup>Gallatin, J., J. Nusstein, A. Reader, M. Beck, and J. Weaver, A comparison of injection pain and postoperative pain of two intraosseous anesthetic techniques. *Anesth Prog*, 50, 2003.
- <sup>144</sup>D'Souza, J., R. Walton, and L. Peterson, Periodontal ligament injection: An evaluation of extent of anesthesia and postinjection discomfort. *J Am Dent Assoc*, 114, 1987.

- <sup>145</sup>Schleder, J.R., A. Reader, M. Beck, and W.J. Meyers, The periodontal ligament injection: a comparison of 2% lidocaine, 3% mepivacaine, and 1:100,000 epinephrine to 2% lidocaine with 1:100,000 epinephrine in human mandibular premolars. *J Endod*, 14, 1988.
- <sup>146</sup>Miles, T., Dental pain: self-observations by a neurophysiologist. *J Endod*, 19, 1993.
- <sup>147</sup>Birchfield, J. and P.A. Rosenberg, Role of the anesthetic solution in intrapulpal anesthesia. *J Endod*, 1, 1975.
- <sup>148</sup>VanGheluwe, J. and R. Walton, Intrapulpal injection - factors related to effectiveness. *Oral Surg Oral Med Oral Pathol*, 19, 1997.