

# Contents

<b>1</b>	<b>Introduction</b>	<b>1</b>
1.1	Why Studying the Pullout Performance of Pedicle Screw Is Important?	7
	References	9
<b>2</b>	<b>Effect of Screw Design</b>	<b>11</b>
2.1	Effect of Radial Holes	11
2.2	Core Geometry	13
2.3	Thread Design	15
2.3.1	Effect of Flank Overlap Area (FOA)	15
2.3.2	Effect of Dual Leads	16
2.4	Cannulated Pedicle Screw	16
2.5	Expandable Pedicle Screw	17
	References	19
<b>3</b>	<b>Effect of Application Techniques</b>	<b>23</b>
3.1	Effect of Tapping	23
3.2	Effect of Hubbing	24
3.3	Effect of Backing Out the Pedicle Screw	24
3.4	Fixation Techniques	25
3.4.1	Misplacement	26
3.5	Effect of Insertional Temperature	27
3.6	Effect of Insertional Torque	27
3.7	Effect of Revision	28
	References	29
<b>4</b>	<b>Effect of Cement Augmentation</b>	<b>33</b>
4.1	Cement Types	33
4.1.1	PMMA Augmentation	33
4.1.2	Calcium Based Cement Augmentation	34
4.1.3	Hydroxyapatite and Cyanoacrylate Augmentation	35

4.2	Effect of Cement Amount. . . . .	36
4.3	Effect of Curing . . . . .	36
4.4	Cement Application Techniques. . . . .	37
	References . . . . .	39
<b>5</b>	<b>Effect of Coating . . . . .</b>	<b>43</b>
	References . . . . .	44
<b>6</b>	<b>Effect of Test Conditions. . . . .</b>	<b>45</b>
6.1	Effect of Pilot Hole. . . . .	45
6.2	Bone Mineral Density . . . . .	70
	References . . . . .	70
<b>7</b>	<b>Finite Element Modelling Studies . . . . .</b>	<b>77</b>
	References . . . . .	78
<b>8</b>	<b>Conclusion . . . . .</b>	<b>81</b>

The Pullout Performance of Pedicle Screws

Demir, T.; Basgöl, C.

2015, XIII, 81 p. 14 illus., 8 illus. in color., Softcover

ISBN: 978-3-319-16600-1