

## **Early Implantation results of 4.5mm PUNCHTac™ Knotless Anchor PEEK System as lateral row anchor for rotator cuff repairs**

### **Dunamis Research and Scientific Team**

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### **Objective:**

The purpose of this study was to analyze the suitability of Dunamis Medical's 4.5mm PunchTac™ Knotless Anchor PEEK Preloaded with One #2 DFX Force Suture, for soft tissue to bone repairs.

### **Materials and Methods:**

The Study was performed using 4.5mm PunchTac™ Knotless Anchor PEEK Preloaded with One #2 DFX Force Suture (30A), (Dunamis Medical, Greenville, AL). The study was performed by retrospectively analyzing the data obtained from 3 senior authors on implantations performed between May 2018 to December 2018. The implantations were performed for soft tissue to bone repairs, mainly rotator cuff repairs and superior capsular reconstructions. Results of implantation and any failures in the form of suture breakage, anchor pull out and anchor fracture were obtained for the knotless anchor system. The data was obtained from surgeon evaluation reports and phone interviews with surgeons.

All the anchors were implanted using the manufacturers instructions for use of the knotless anchor. The anchors presented for the study were approved for shoulder, knee, ankle and elbow. The age group was recorded to understand the effect of increasing age on the strength of fixation of the device.

### **Results:**

The patients ages ranged from 20 years to 76 years. The age groups are described in (Table 2). 73 consecutive implantations of knotless anchors were performed. There were no reports of suture breakage, anchor pull out or anchor fracture from either of the 3 orthopedic surgeons in regard to the 4.5mm PunchTac™ Knotless Anchor System of anchor systems used (Table 1).

**Conclusion:**

In conclusion, Dunamis Medical's 4.5mm PunchTac™ Knotless Anchor PEEK System showed no failures in the form of suture breakage, anchor pull out and anchor fracture during time of implantation. Further, evaluations from the panel of 3 orthopedic surgeons indicated the safety for soft tissue to bone repairs.

**Table 1: 4.5mm PunchTac™ Knotless - Implantations**

<b>Month, 2018</b>	<b>Anchor Type</b>	<b>Surgeon # 1</b>	<b>Failures</b>	<b>Surgeon # 2</b>	<b>Failures</b>	<b>Surgeon # 3</b>	<b>Failures</b>
May	30A	5	0	0	0	0	0
June	30A	3	0	0	0	0	0
July	30A	2	0	0	0	0	0
August	30A	5	0	0	0	2	0
September	30A	6	0	6	0	0	0
October	30A	5	0	0	0	14	0
November	30A	3	0	5	0	6	0
December	30A	5	0	4	0	2	0
		<b>34</b>		<b>15</b>		<b>24</b>	

**Table 2: 4.5mm PunchTac™ Knotless – Patient Age Group**

	20-35 Years	35-50 Years	50-65 Years	65-76 Years
Surgeon 1	0	5	10	5
Surgeon 2	0	4	5	2
Surgeon 3	1	3	6	2