A Probing Device for Quantitatively Measuring the Mechanical Properties of Soft Tissues during Arthroscopy

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Materials

Name	Company	Catalog Number	Comments
4.5 mm ARTHROGARDE Hip Access Cannula GREEN	Smith&Nephew	72201741	Arthroscopy cannula
70° Autoclavable, Direct View	Smith&Nephew	72202088	70 degrees arthroscope
Bandicam	Bandicam Company		an advanced screen recording software
da Vinci 2.0 A Duo	XYZ printing Japan		3D printer
Disposable Hip Pac	Smith&Nephew	7209874	A set of 3 guidewires and 2 arthroscopy needles
Hip phantom	Sawbones USA, A Pacific Research Company	SKU:1516-23	The phantom model for hip arthroscopy
Labview	National Instruments		Systems engineering software for applications that require test, measurement, and control with rapid access to hardware
LAC-1	SMAC		Electromechanical actuator
LSB200	Futek	FSH00092	A load cell
Nanopass	Stryker	CAT02298	A suturing instrument for the labrum repair
Osteoraptor 2.3 Suture Anchor	Smith&Nephew	72201991	Anchor set for the labrum repair
PC software for Probing sensor	Moosoft		PC software for Probing sensor
Poly-vinyl alcohol hydrogels	Sunarrow Limited		Poly-vinyl alcohol hydrogels
portable arthroscopy camera	Sawbones USA, A Pacific Research Company	SKU:5701	Portable arthroscopy camera
Probing sensor	Takumi Precise Metal Work Manufacturing Ltd		Probing device to measure resistance force to soft tissue in joint while probing
Samurai Blade	Stryker	CAT00227	Arthroscopic scalpel
Standard fixation device	Sawbones USA, A Pacific Research Company	SKU:1703-19	The fixation device for the hip phantom
Strain gauge sensor	Nippon Liniax Co.,LTD	MFS20-100	The sensor works with three Wheatstone bridges

Ultra-Hard C2 Tungsten Carbide Ball, 1 mm Diameter	McMaster-Carr	9686K81	Ultra-Hard C2 Tungsten Carbide Ball, 1 mm Diameter