

Requirement	Test
Autoclavability of motor	Put through autoclave cycle and check if it
Thickness of shaft and tip should not exceed 4 mm in diameter	Measure diameter by inserting shaft into 4 mm straw to ensure fit
Needs to be comfortable to hold for Dr. Hiller	Have Dr. Hiller hold and approve handle
Device has two components - attachment and handle that can be taken apart	Manually insert and attach head to handle to make sure ease of fit and locked
Device is made of two components that can easily slide in and out of each other	Manually measure that there is not friction when sliding inside attachment in and out of handle shaft
Maximum weight shall not exceed 500g with 400g being the handle	Weigh the full system and also the handle on the scale in GJ 126
Autoclavability of whole device	Put through autoclave cycle and check if it
Compatibility of suction with current setup	Place tube in cup of water with bits of cartilaginous tissue and see if it works when hooked up to current pump also
Input voltage:100-240V AC	Use voltmeter or multimeter to measure the powersource's voltage
Input current:6-10A	Use ammeter or multimeter to measure the powersouce's current
Operation power capability: 400W@200ohms and 200KHz	Use multimeter to measure the output voltage and current. then can get the
Max speed:12000 RPM	Run at full load, and use Infrared tachometer to measure the speed
"Energy Storage Capacity : Plug in power source (110V-220V) "	Use plug in electric resource
Ability for inner shaft to rotate in outer shaft	Hook up motor to inner/outer shaft configuration and run, making sure it
Ability to shave down articular cartilage	Run shaver on bovine/porcine knee and measure articular cartilage before and
Operate for 1.5 hours of continuous use	Use prototype continuously for 1.5 hours with load (shaving of bovine knee
Operate withing temperature range of 25-39 °C	Use prototype at the both 25 °C and 39 °C with load to check functionality
Must not break or bend during use when max load is applied	3 point bending test of material
Meets the IP 68 rating	Submerge prototype underwater for at least 1 hour and check operation
Needs to be comfortable to hold and operate with for Dr. Hiller	Have Dr. Hiller operate on a bovine knee

Test Subject	Target Date
Motor	1/31/20
Shaft and tip	2/15/20
Handle	3/1/20
Shaft and handle	3/1/20
Shaft and handle	3/1/20
Initial Prototype	3/20/20
Initial Prototype	3/20/20
Electrical Components	3/20/20
Electrical Components	3/31/20
Electrical Components	3/31/20
Electrical Components	3/31/20
Electrical Components	3/31/20
Electrical Components	3/31/20
Electrical Components	3/31/20
Fully Functional Protoype	3/31/20
Fully Functional Protoype	3/31/20
Fully Functional Protoype	3/31/20
Fully Functional Protoype	3/31/20
Fully Functional Protoype Sha	3/31/20
Fully Functional Protoype	3/31/20
Fully Functional Protoype	4/10/20