

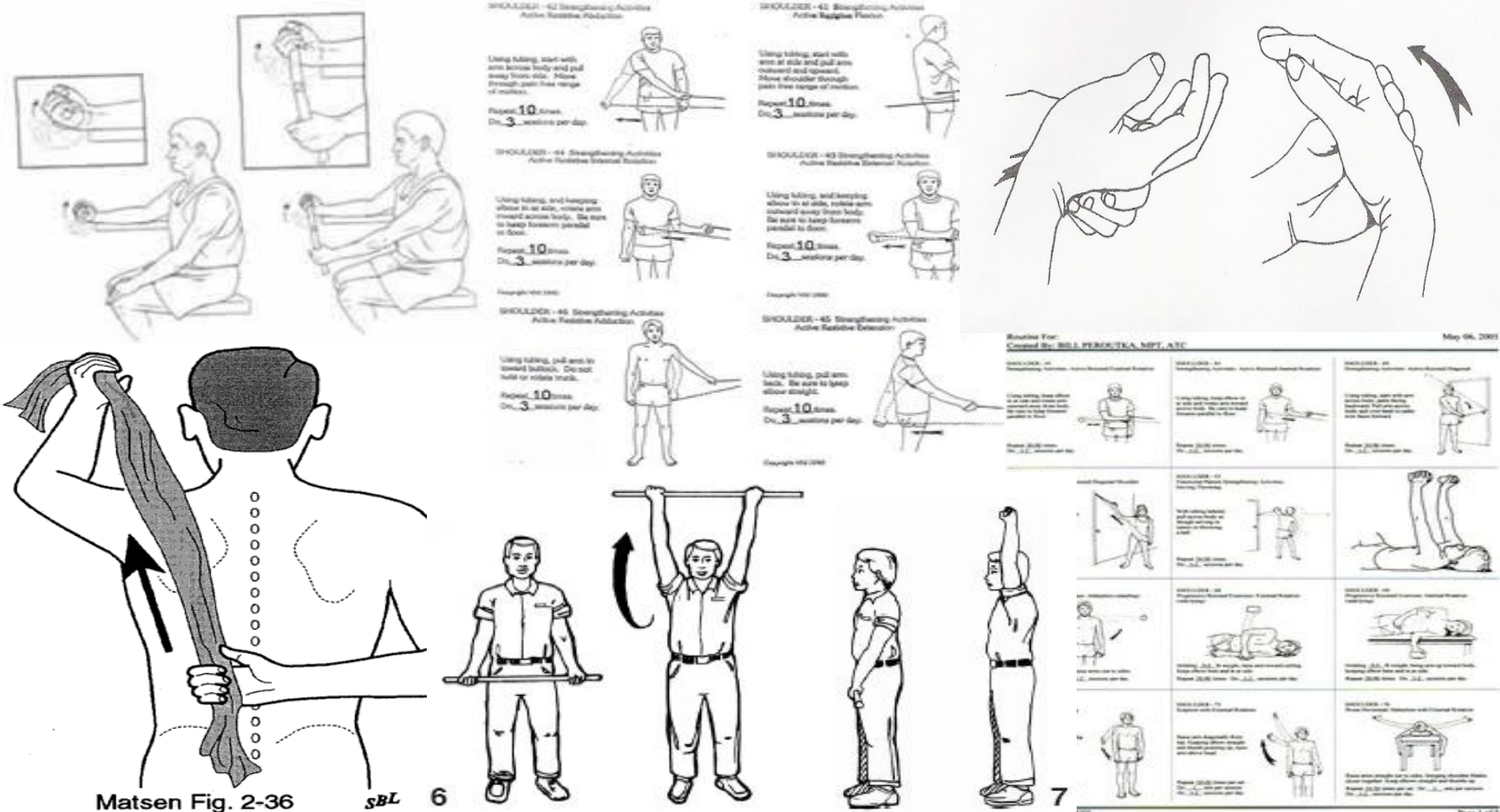
Reflexstic:

A therapeutic device for warming up and strengthening.

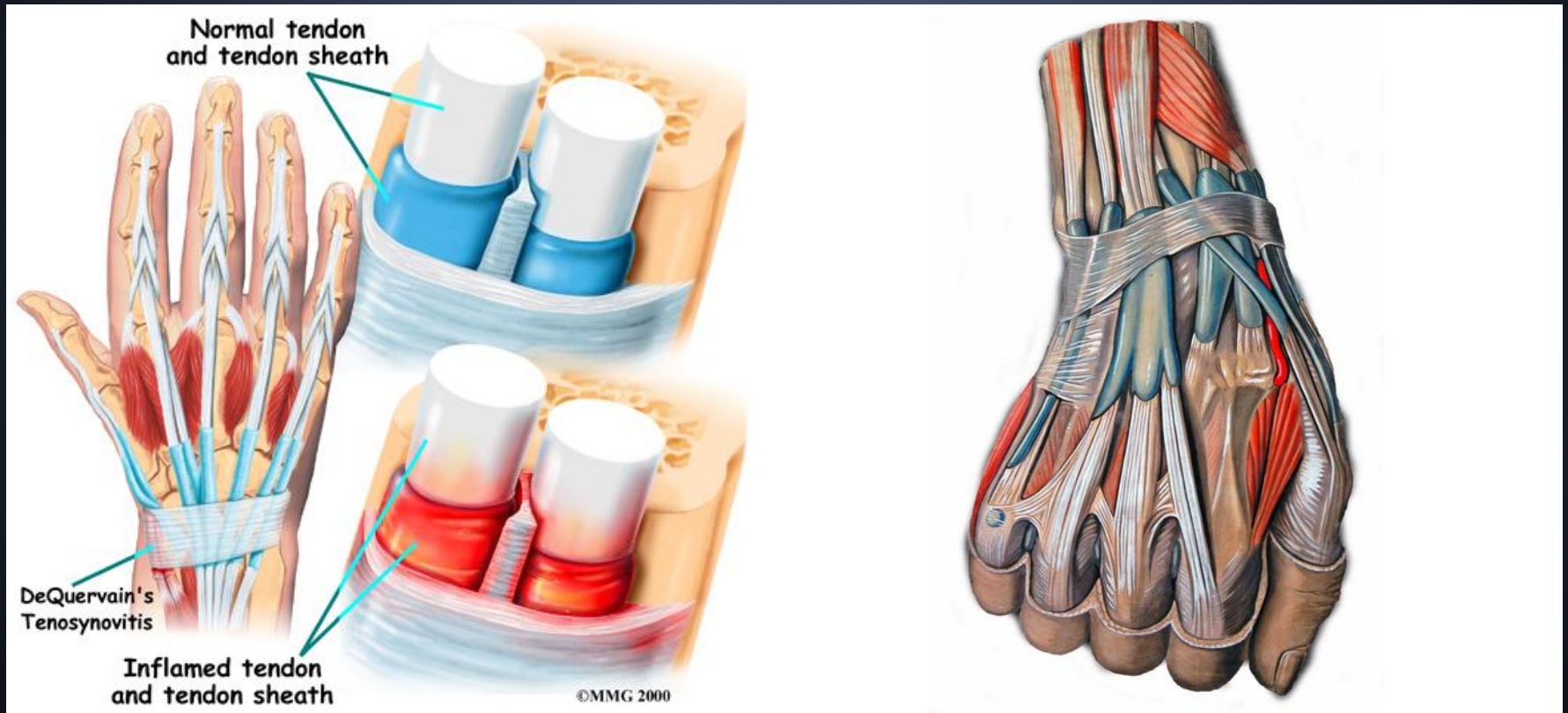
Zach Sabatelli

IDT 290 Capstone





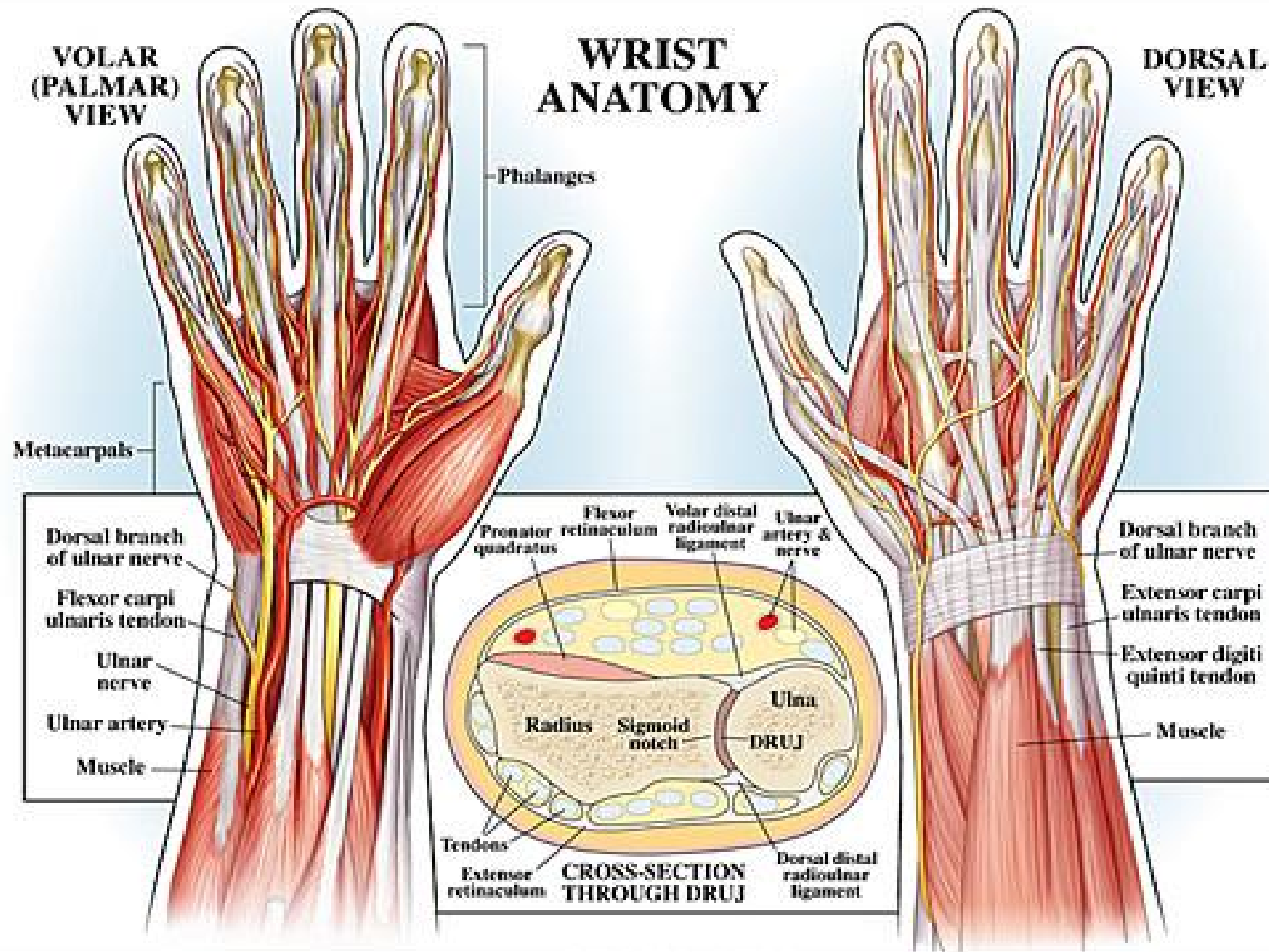
Tendonitis

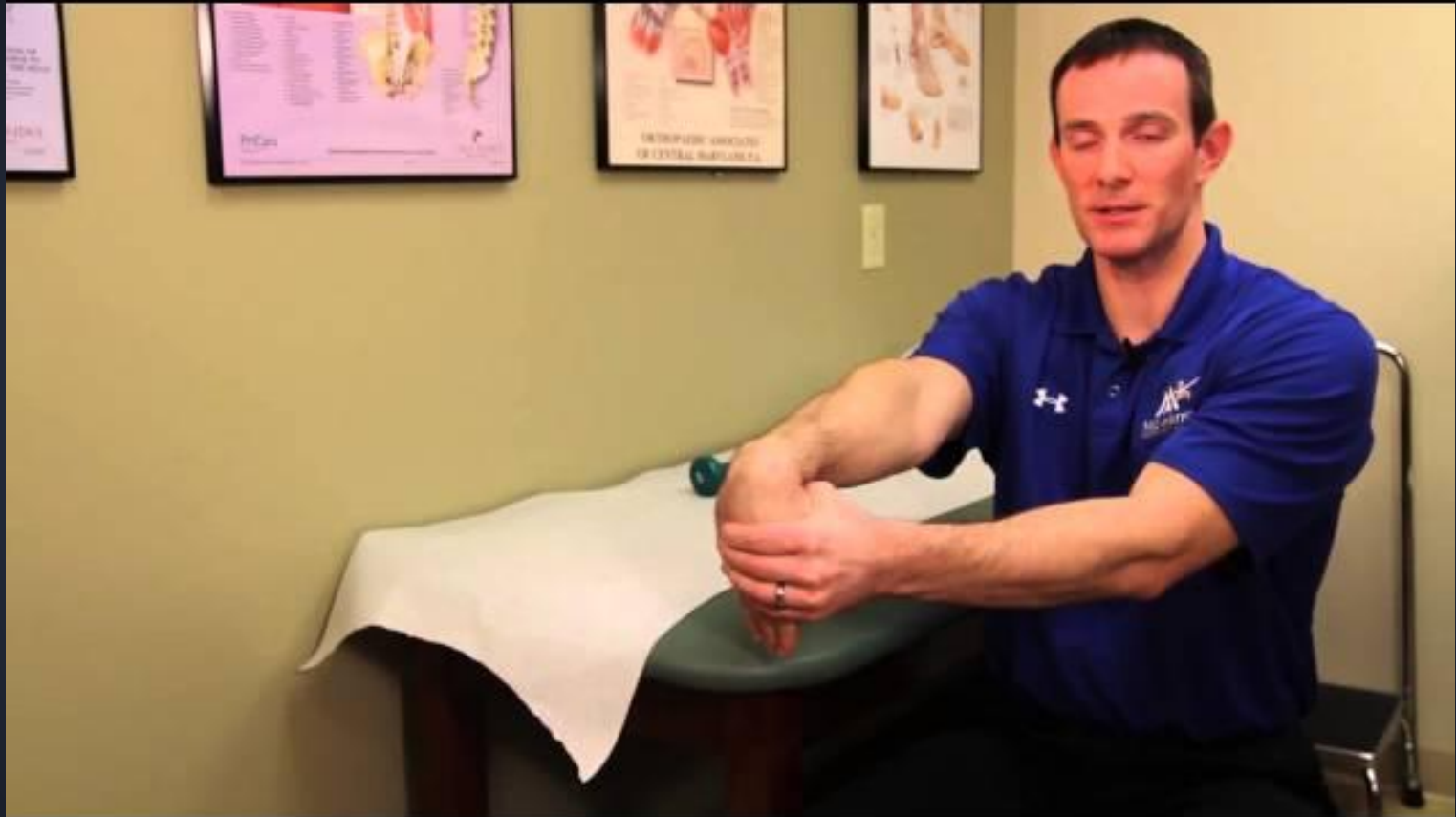


VOLAR (PALMAR) VIEW

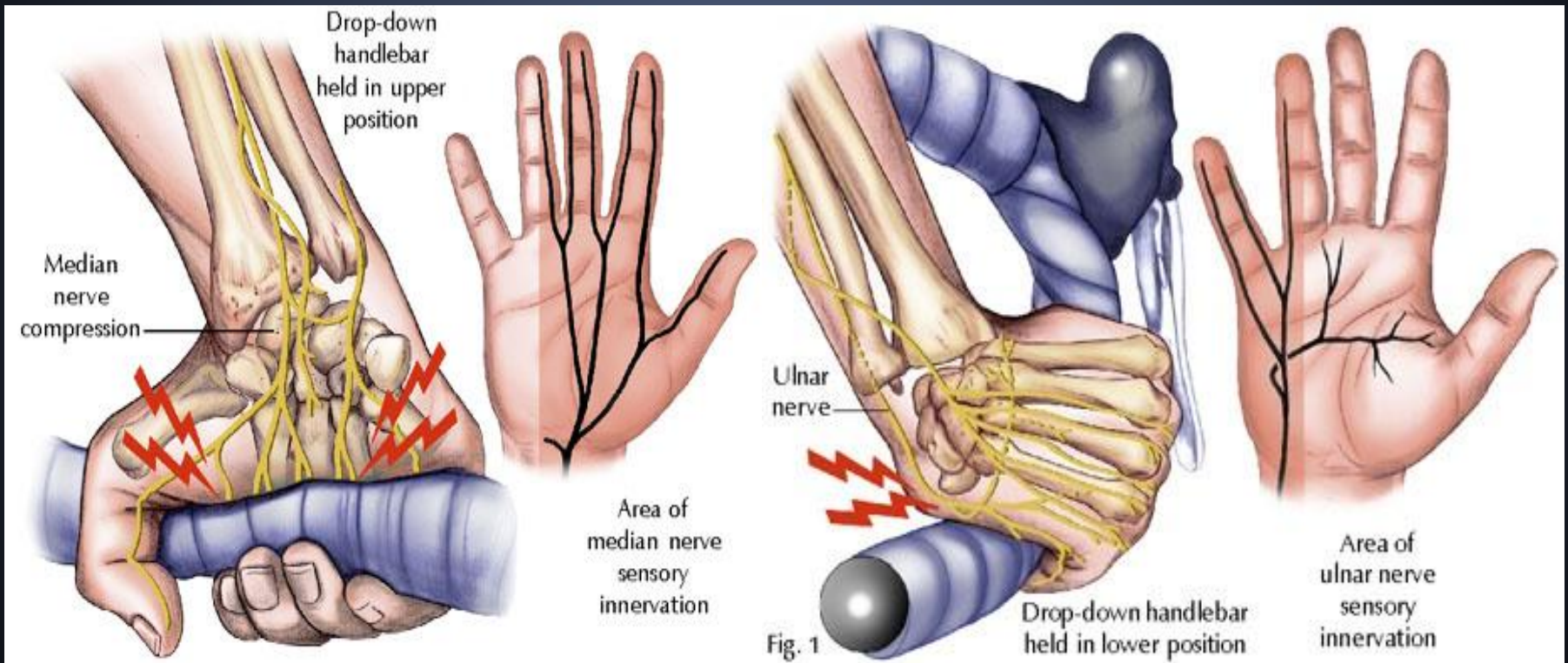
WRIST ANATOMY

DORSAL VIEW





Hyperextension





Close Range Shooting

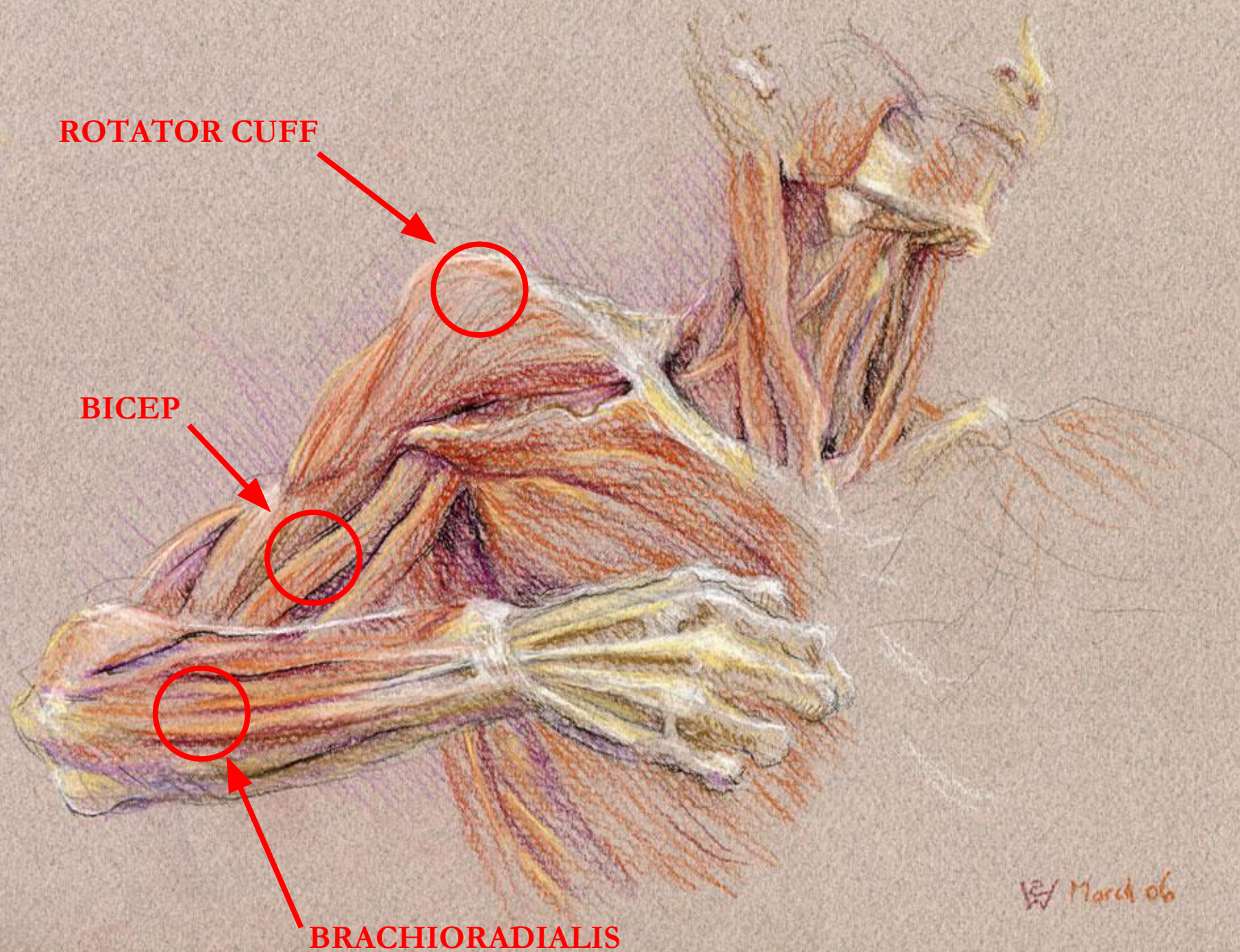
Anatomical Locations of Concern



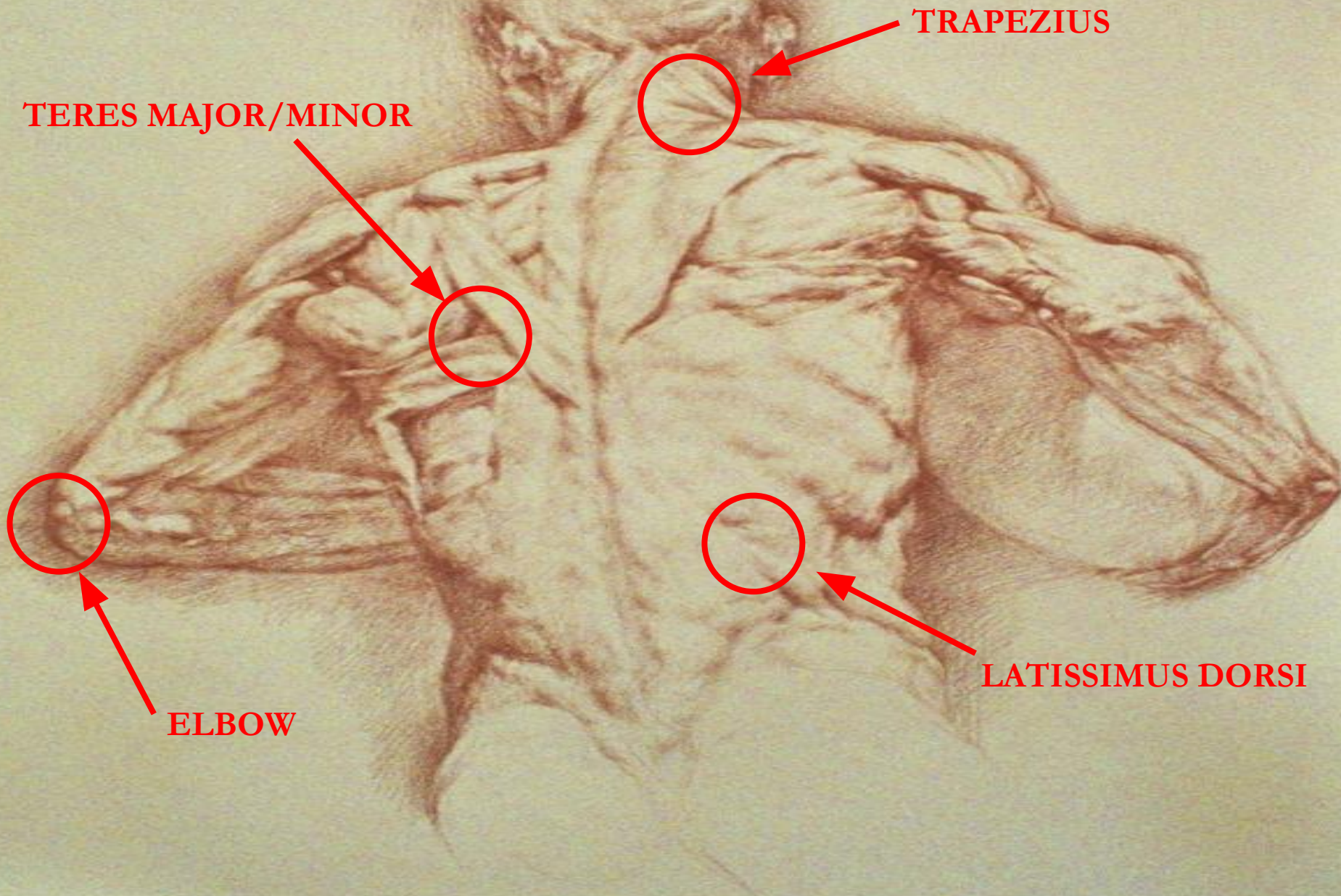
ROTATOR CUFF

BICEP

BRACHIORADIALIS



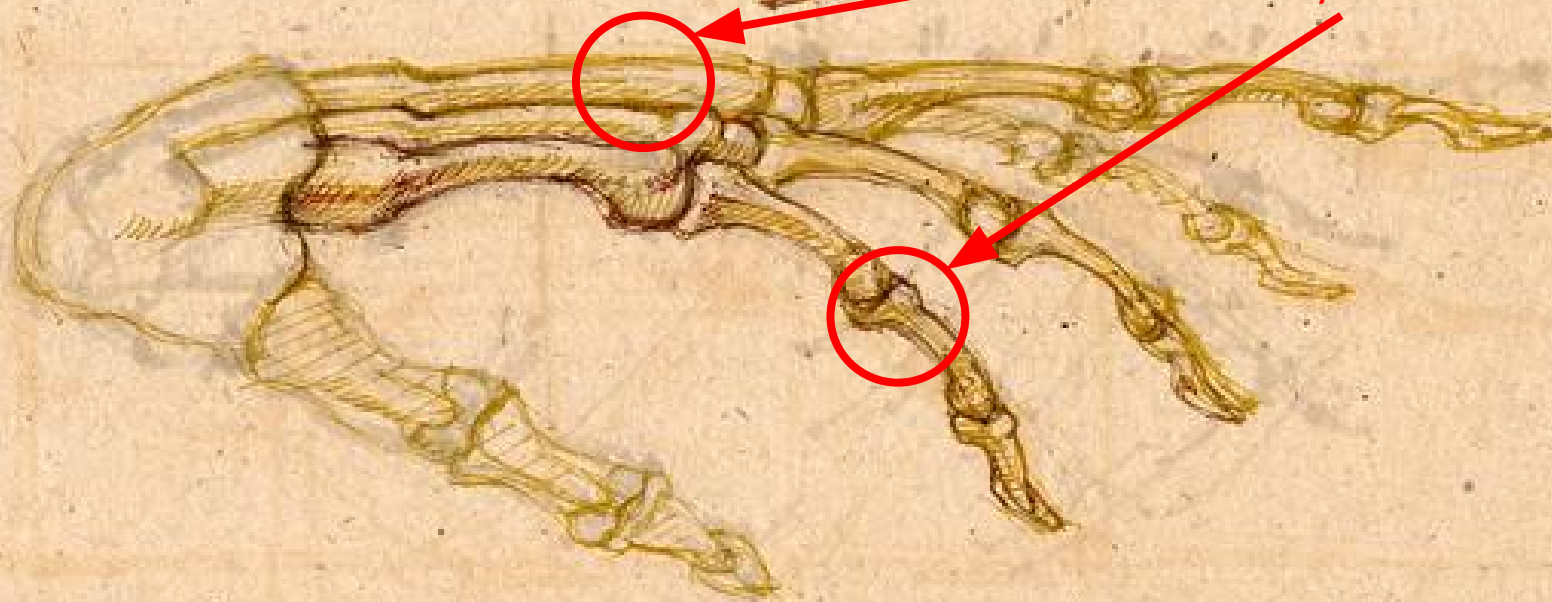
W March 06





**DISTAL/PROXIMAL
BONES**

CARPALS/METACARPALS



Target Market

DRUMMERS

TENNIS PLAYERS

GOLFERS

PHYSICAL THERAPY FACILITIES

ROCK CLIMBERS

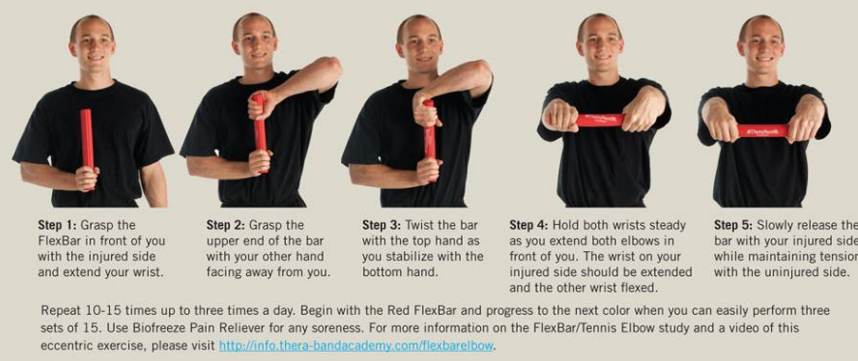
SWIMMERS

INDIVIDUALS POST SURGERY

Target Market



Thera-Band



System of Progressive Resistance

Pounds/Kilograms of Force at 100% Elongation

GOLD					26/11.8
SILVER				19/8.6	
BLACK			11/4.9		
BLUE		9.5/4.3			
GREEN		7/3.1			
RED		6/2.7			
YELLOW		4/1.8			
TAN		2.5/1.1			



Thera-Band Color Progression

Thera-Band® Band/Tubing Color	Increase from Preceding Color at 100% Elongation	Resistance in Pounds at:	
		100% Elongation	200% Elongation
Thera-Band Tan	-	2.4	3.4
Thera-Band Yellow	25%	3.0	4.3
Thera-Band Red	25%	3.7	5.5
Thera-Band Green	25%	4.6	6.7
Thera-Band Blue	25%	5.8	8.6
Thera-Band Black	25%	7.3	10.2
Thera-Band Silver	40%	10.2	15.3
Thera-Band Gold	40%	14.2	21.3

*Represents typical values. All products not available in all colors.



Figure 1A: Rubber bar held in involved (right) hand in maximum wrist extension.



Figure 1B: Other end of rubber bar grasped by noninvolved (left) hand.



Figure 1C: Rubber bar twisted by flexing the noninvolved wrist while holding the involved wrist in extension.



Figure 1D: Arms brought in front of body with elbows in extension while maintaining twist in rubber bar by holding with noninvolved wrist in full flexion and the involved wrist in full extension.



Figure 1E: Rubber bar slowly untwisted by allowing involved wrist to move into flexion i.e., eccentric contraction of the involved wrist extensors.



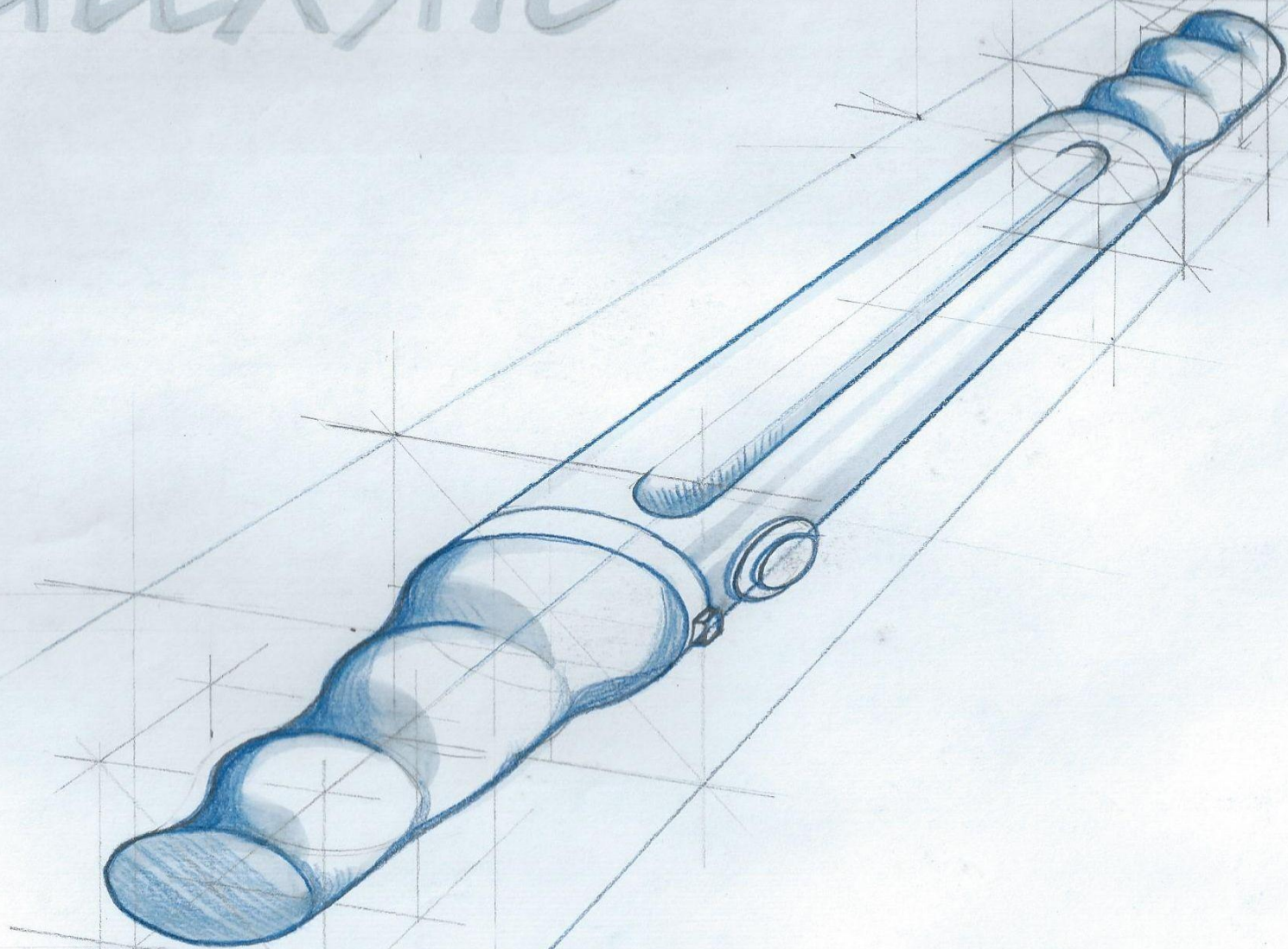
Body Blade

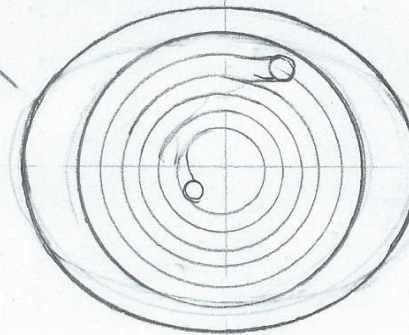
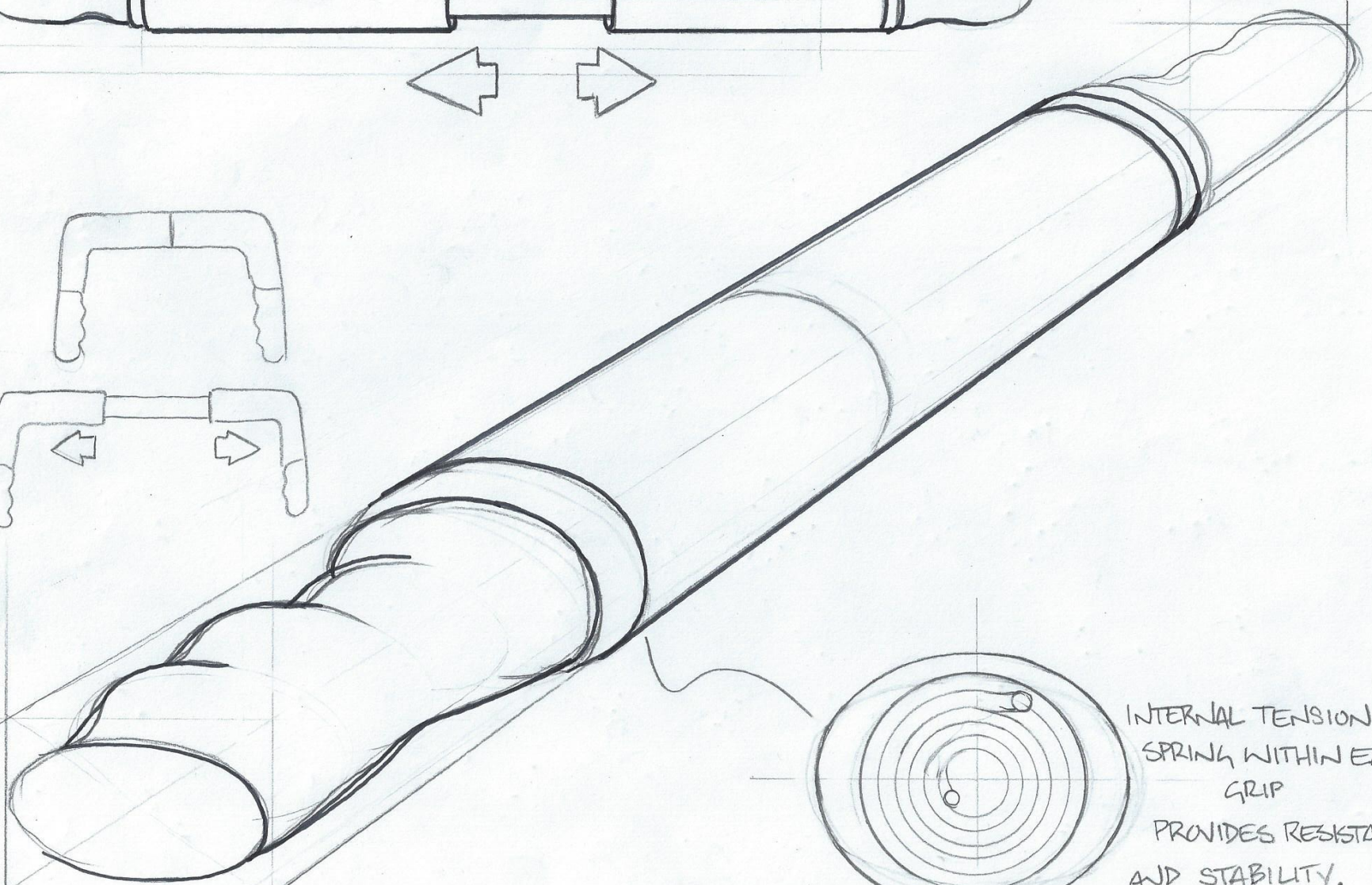
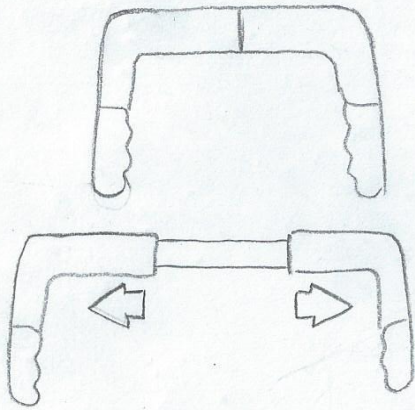
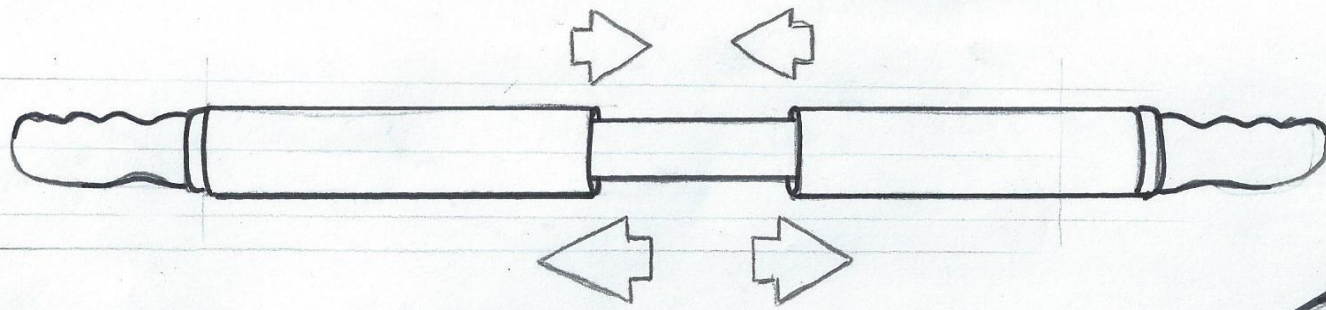


CHOOSE A BODYBLADE®

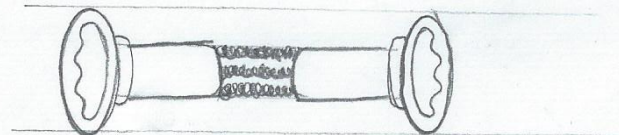
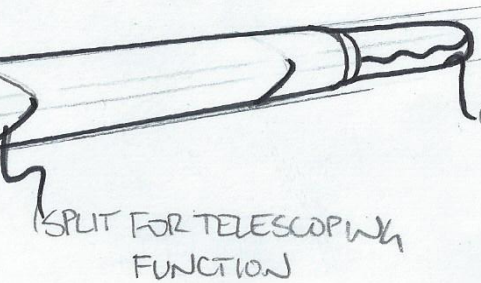
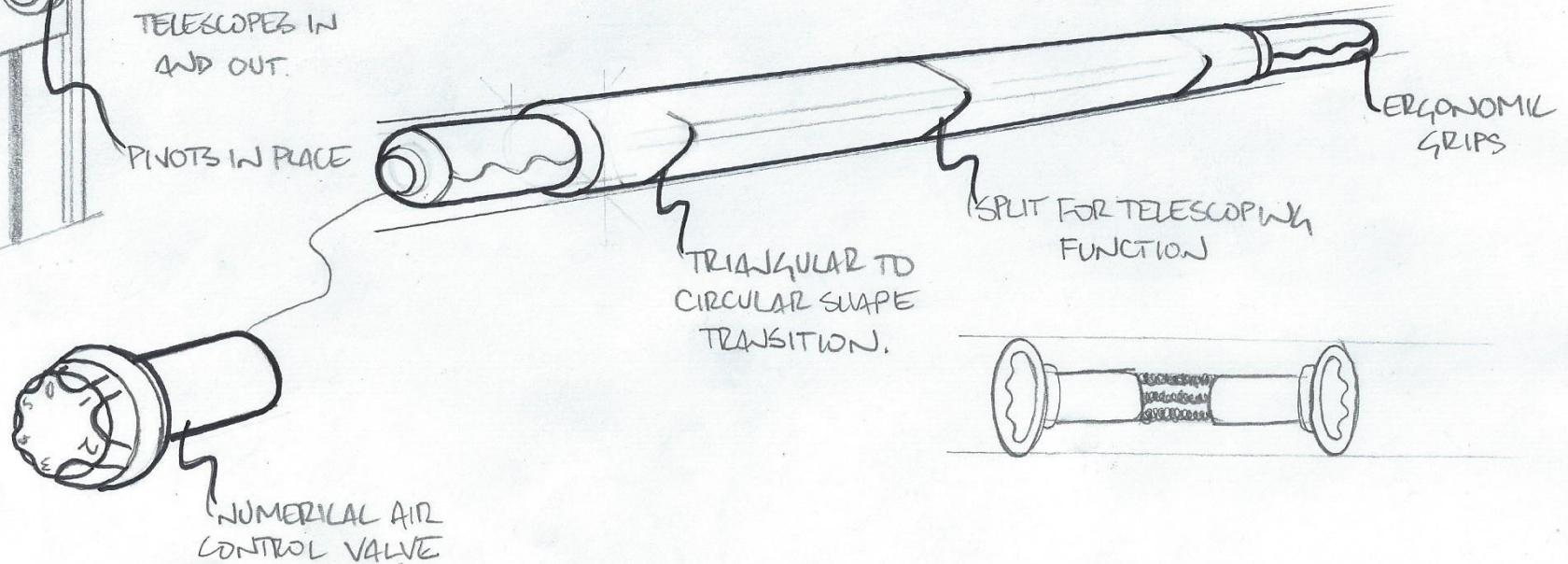
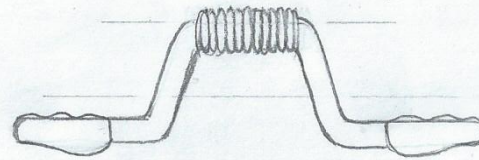
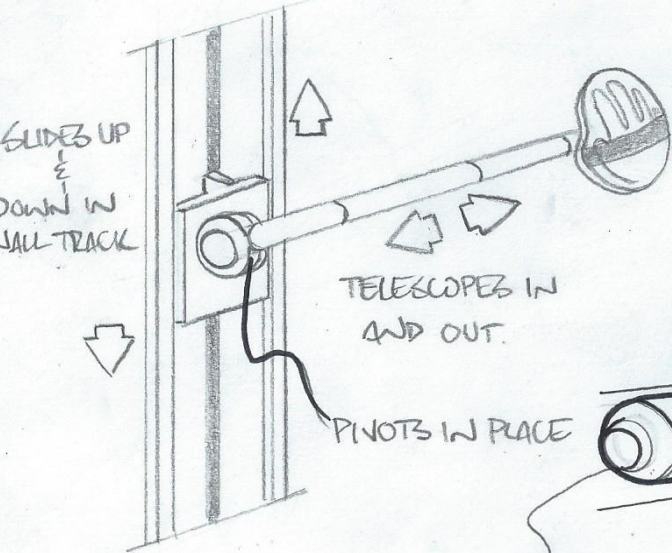
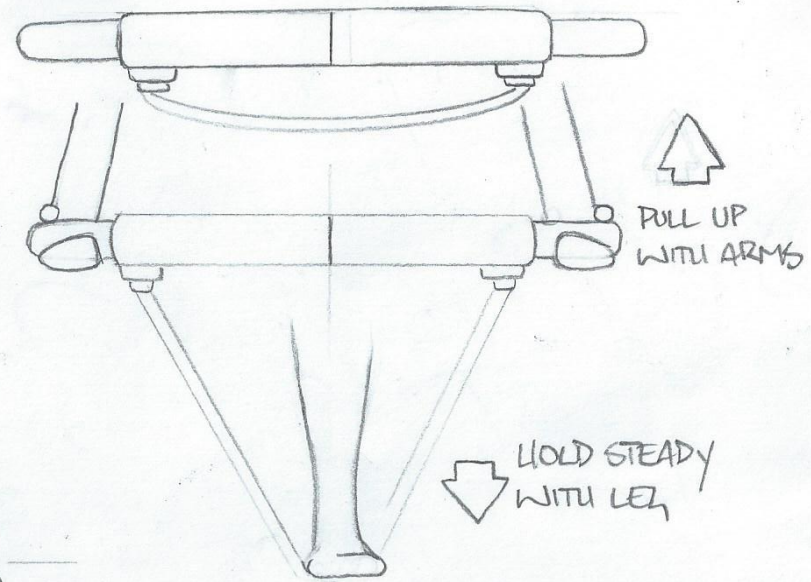
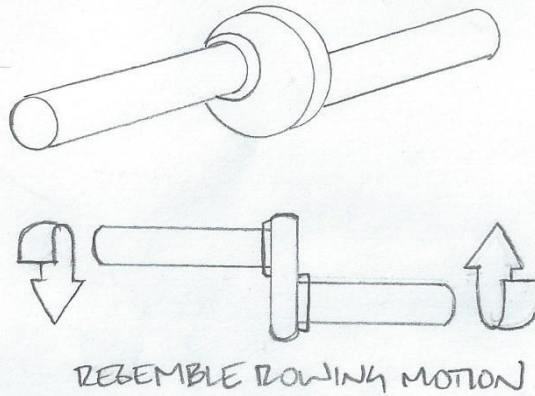
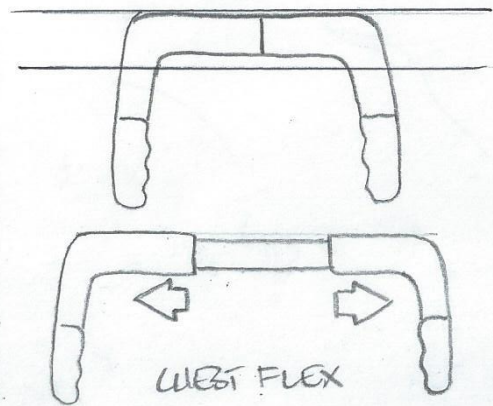


REFLEXSTIC





INTERNAL TENSION
SPRING WITHIN EACH
GRIP
PROVIDES RESISTANCE
AND STABILITY.



IDEAL GRIP DIAMETER

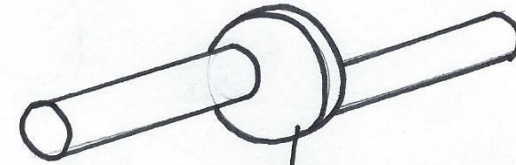
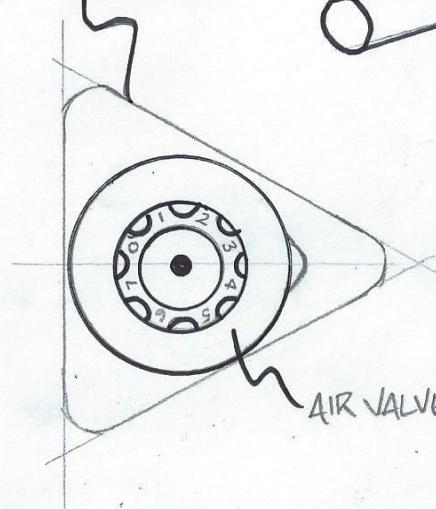
- 0.75" MINIMUM
- 1.125" MAXIMUM

IDEAL OUTER WIDTH OF DEVICE

- 24.0" MINIMUM
- 28-30" MAXIMUM (FOR TELESCOPING)
- 36" IS POSSIBLE

HALF OF LENGTH WILL PROMOTE RANGE OF MOTION AND AVOID BODILY COLLISION.

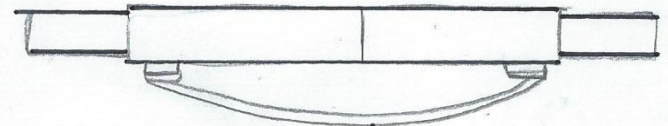
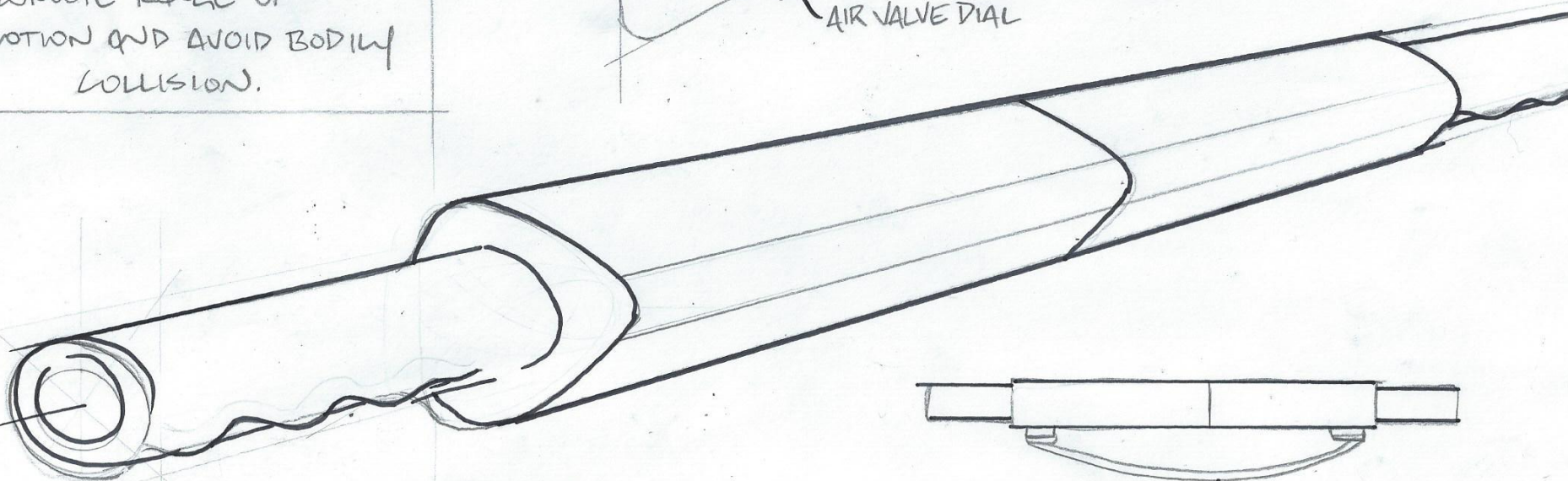
TRIANGULAR PROFILE



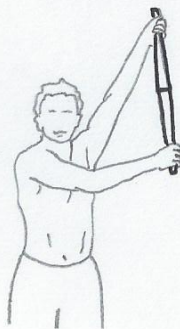
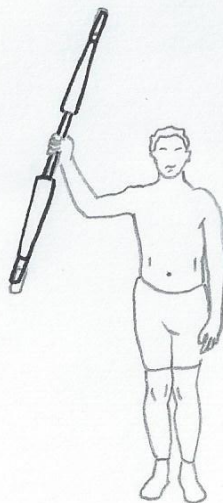
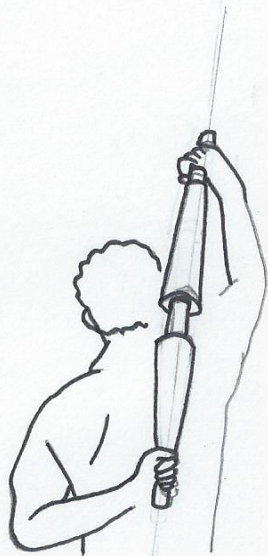
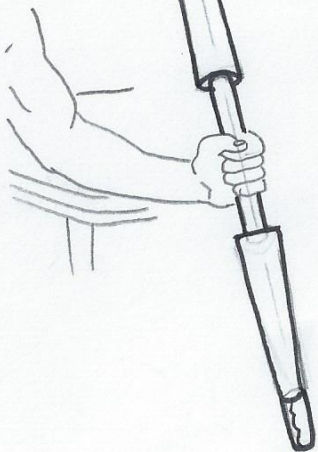
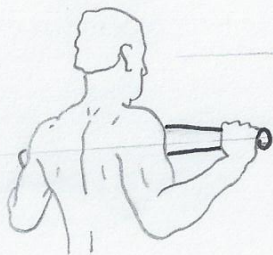
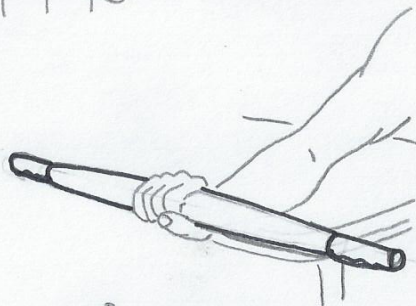
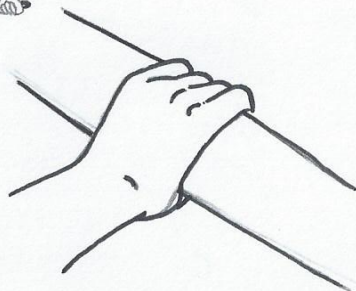
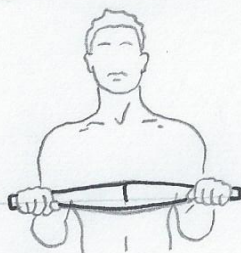
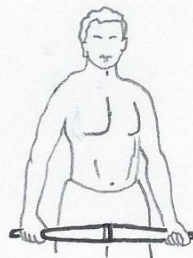
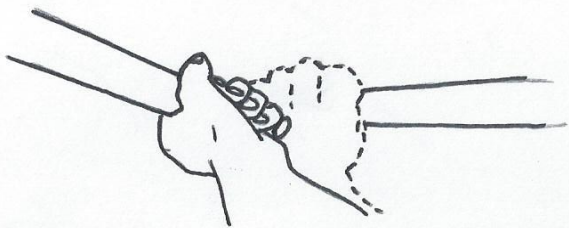
CENTER "GEAR" THAT SPINS AS YOU ROW EACH SHAFT. ROM.

AIR VALVE DIAL

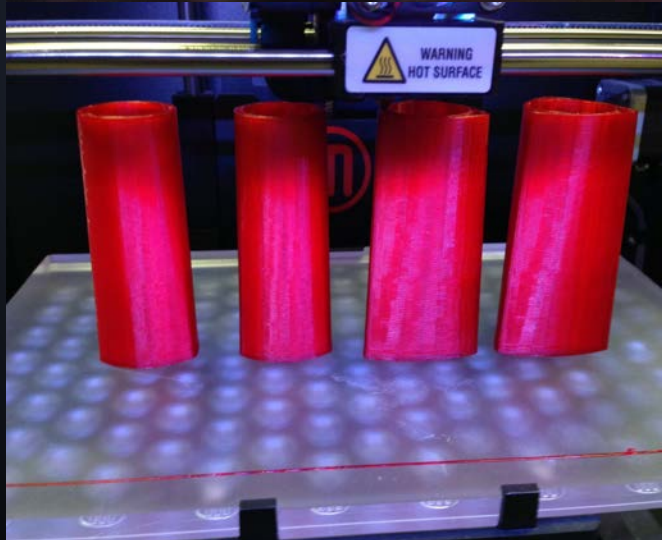
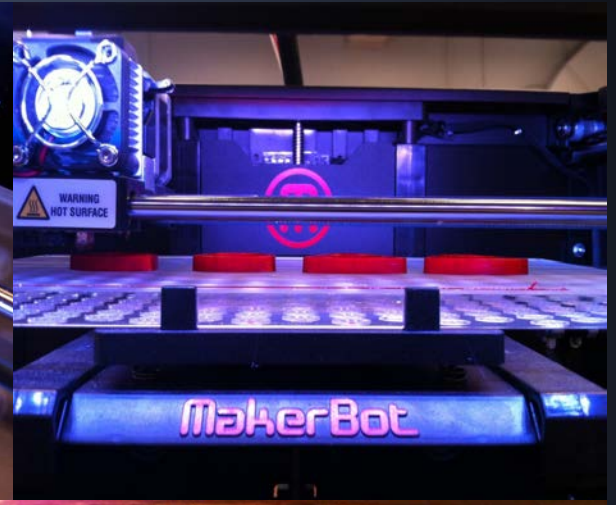
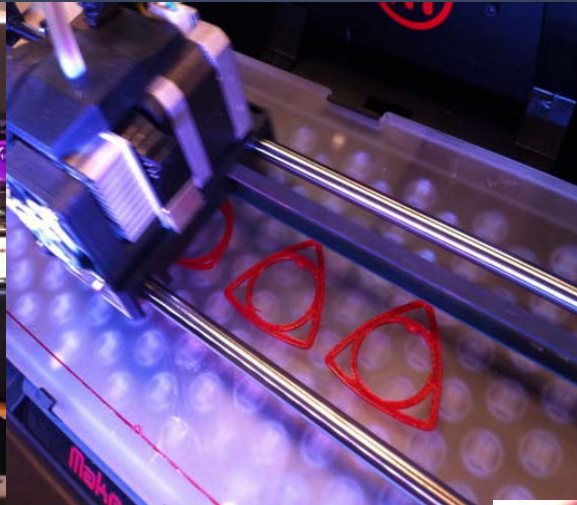
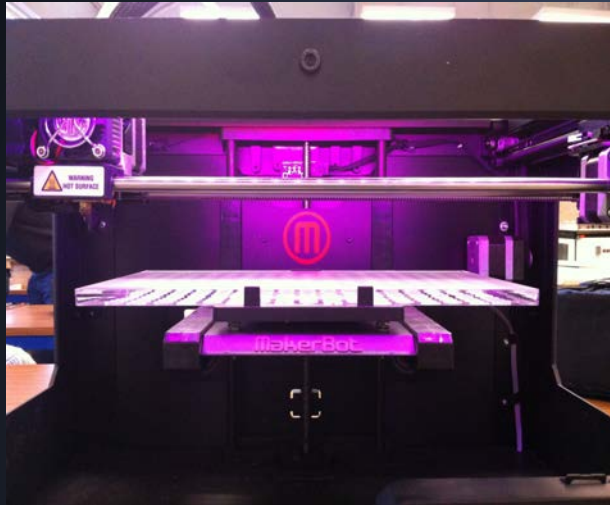
FRONT ISO VIEW

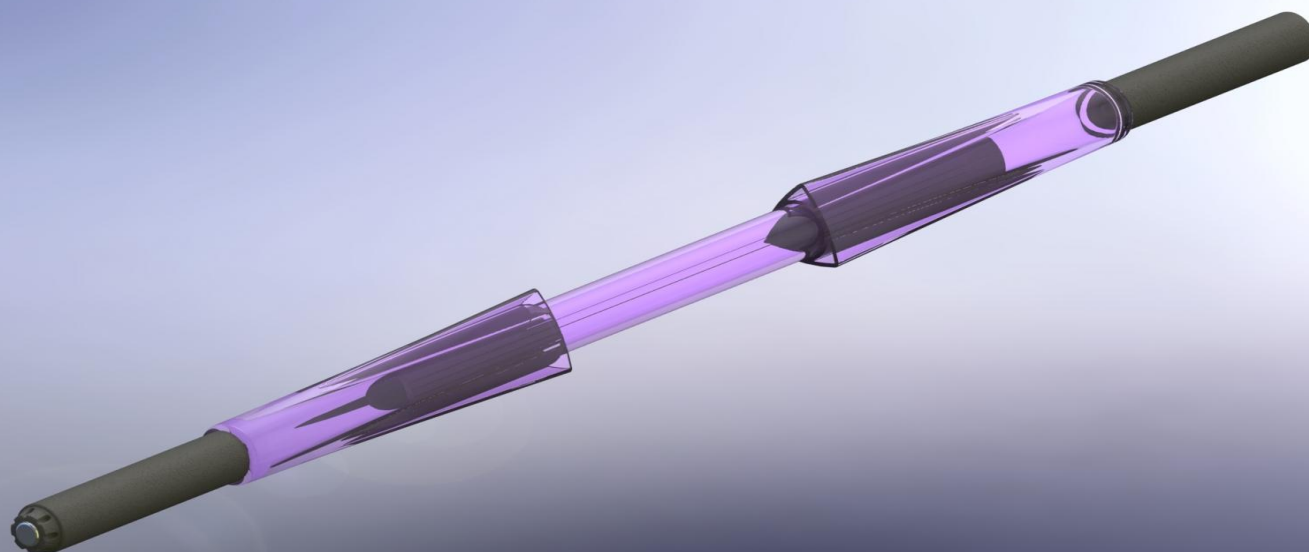
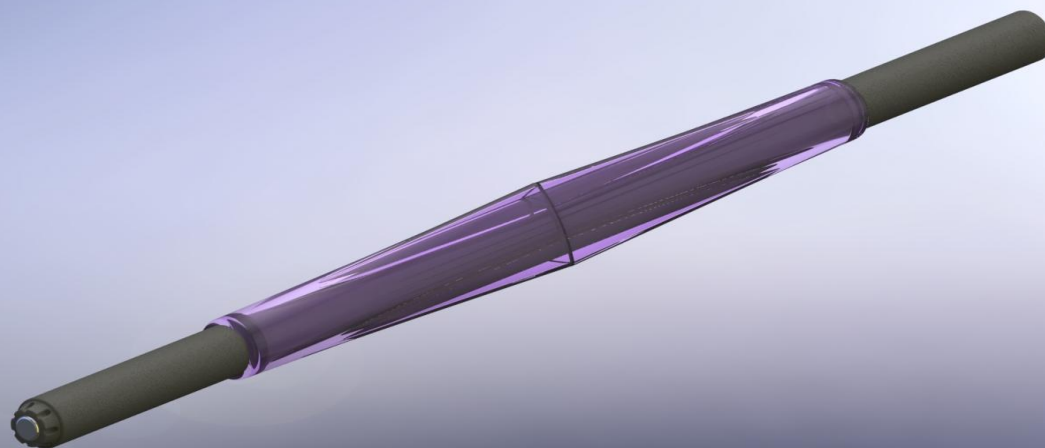


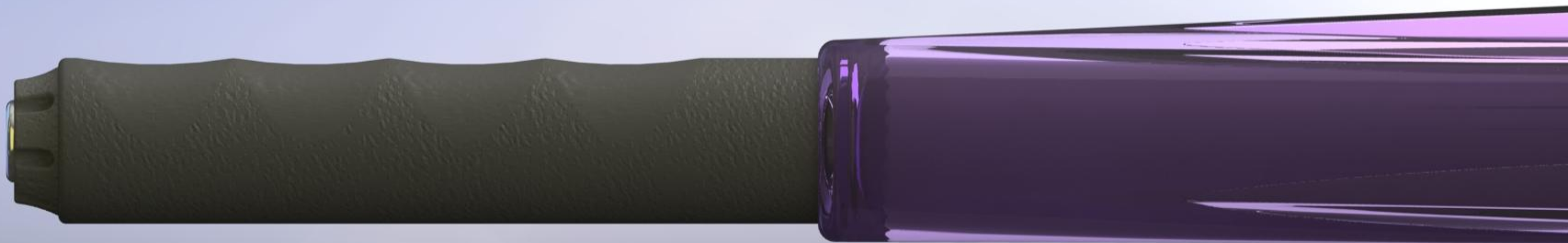
THERA BAND THAT CREATES RESISTANCE OR ALLOWS DEVICE TO BE USED BY ARMS AND

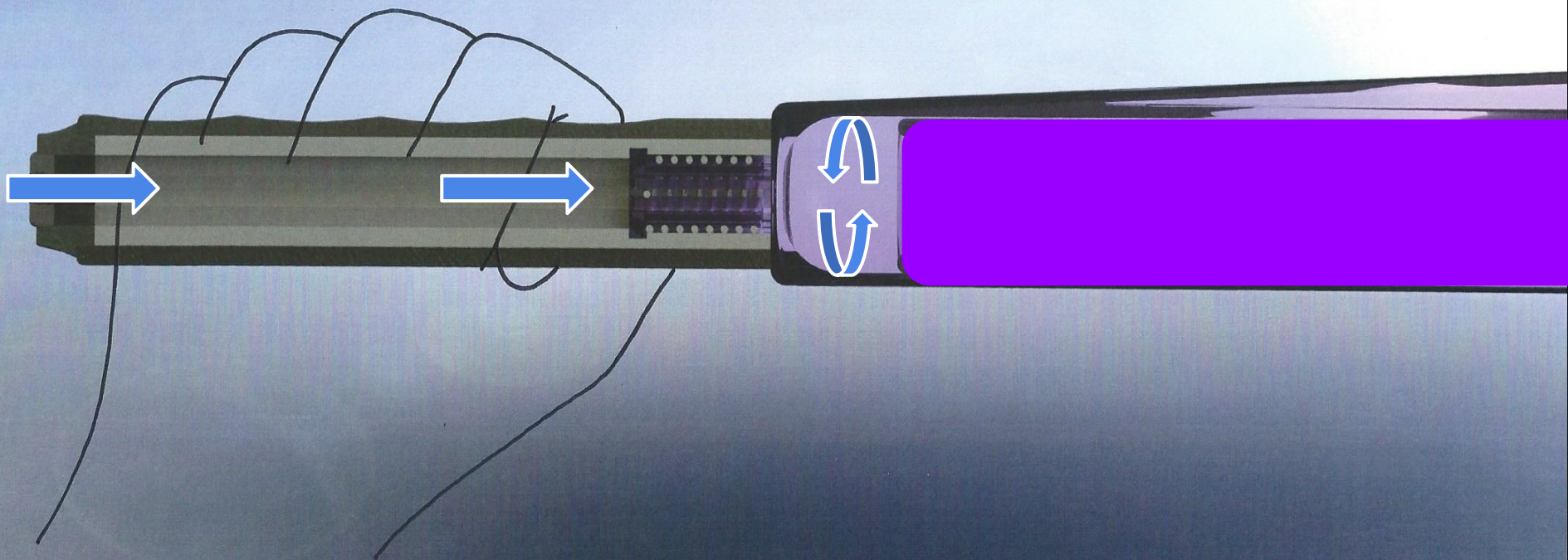


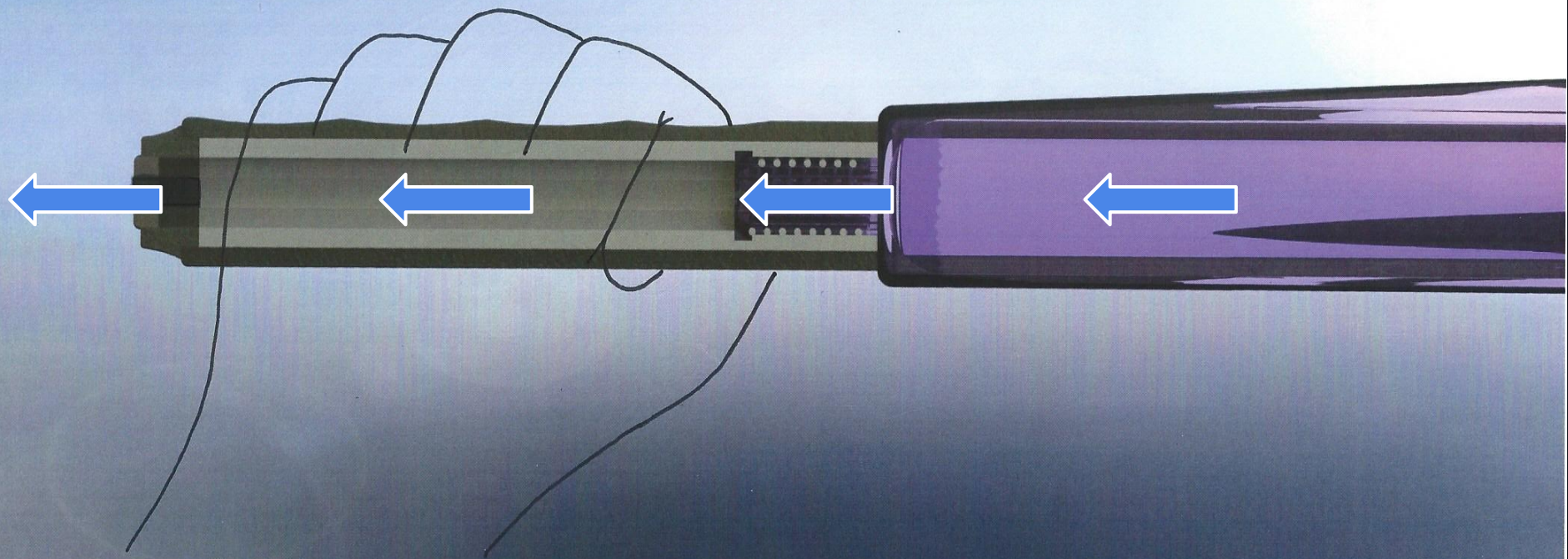
3D Printed Model

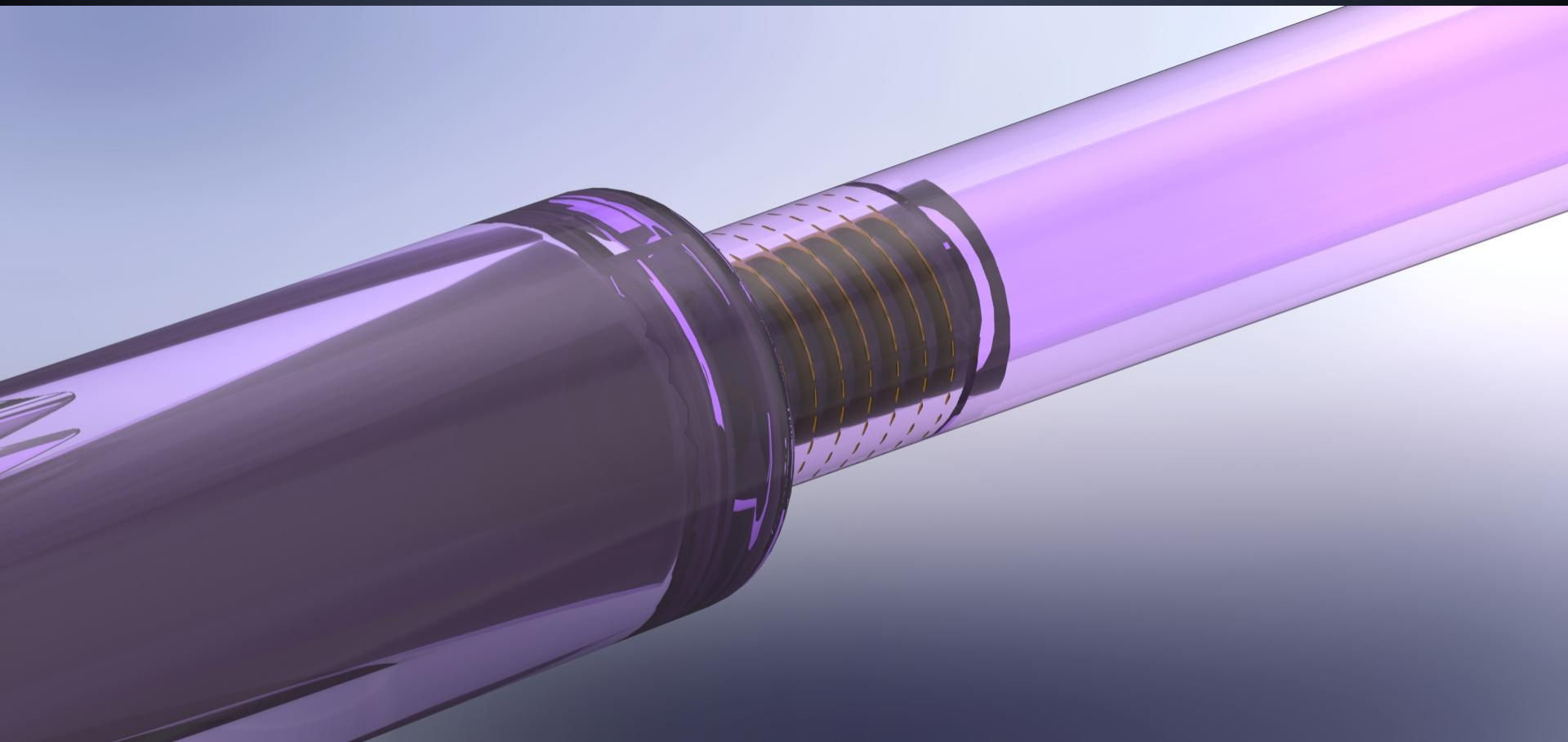












What's next?

- 1.) Share models with more individuals, keeping each scenario different, each individual of a different caliber of fitness to determine the market that would benefit the most from a device such as the Reflexstic.
- 2.) Determine how to integrate tension springs into the grips of the Reflexstic to allow for throttle-like range of motion.
- 3.) Further dimensional analysis. After allowing individuals to interact with models, derive a more complete application of human factors.
- 4.) Determine if it is truly feasible to manufacture and produce Reflexstic.

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