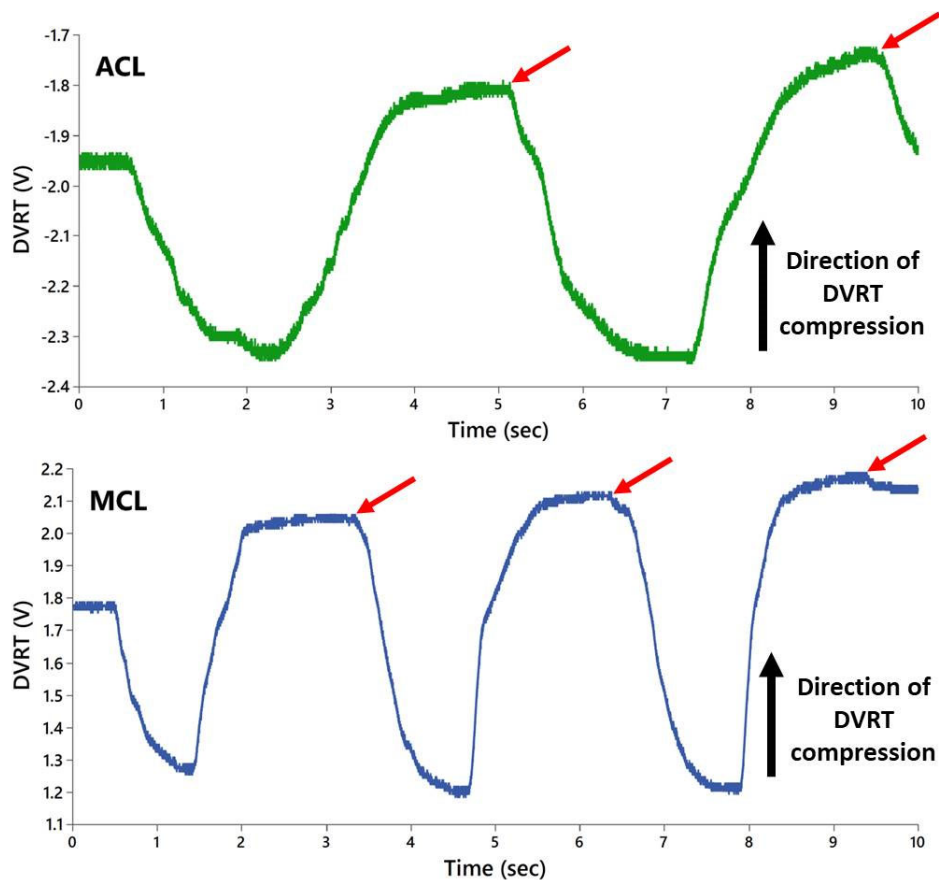


APPENDIX FIGURE



Appendix Figure A1. Calibration Trials of ACL and MCL DVRTs. Prior to implantation, a micrometer was used to measure the distance between both DVRT prongs when the sensor was fully compressed. This was referred to as the fully compressed length of the DVRT. Once implanted, each DVRT implant was calibrated separately with manual force to the tibia in the posterior-anterior direction (for the ACL) and in the varus-valgus direction (for the MCL). As stated in the Methods, this allowed each ligament to pass through its lax to taut inflection point, and provided the subsequent DVRT voltage data at that location. The inflection point (as indicated by red arrows) was determined by plotting the continuous data with manual selection of the point where voltage transitioned from the maximal static plateau into a decreasing slope. As long as the maximal voltage plateau occurred prior to the maximal saturation range of the DVRT, the subsequent lack of change in the voltage data indicated that a lax state was present in the respective ligament. This voltage data was converted to millimeters as per the provided calibration documents from LORD MicroStrain. This calculated length was added to the fully compressed length of the DVRT and subsequently used as the initial length in our calculation of strain. Active voltage range of above DVRT sensors: ACL (-4.5 – 4.8 V) and MCL (-6.2 – 3.5 V).