

## **Supplementary Material (S1)**

### **Reliability and MDC values**

Table S1: Reliability and MDC values.

	<b>ICC</b>	<b>MDC</b>
Peak medial tibiofemoral force (BW)	0.951	0.27
Peak medial tibiofemoral stress (MPa)	0.947	0.01
Peak medial tibiofemoral strain	0.945	0.16

Note:  $MDC = 1.96 \times SEM \times \text{square root of } 2$ .

## **Supplementary Material (S2)**

### **Sensitivity analysis**

Table S2: Walking velocity

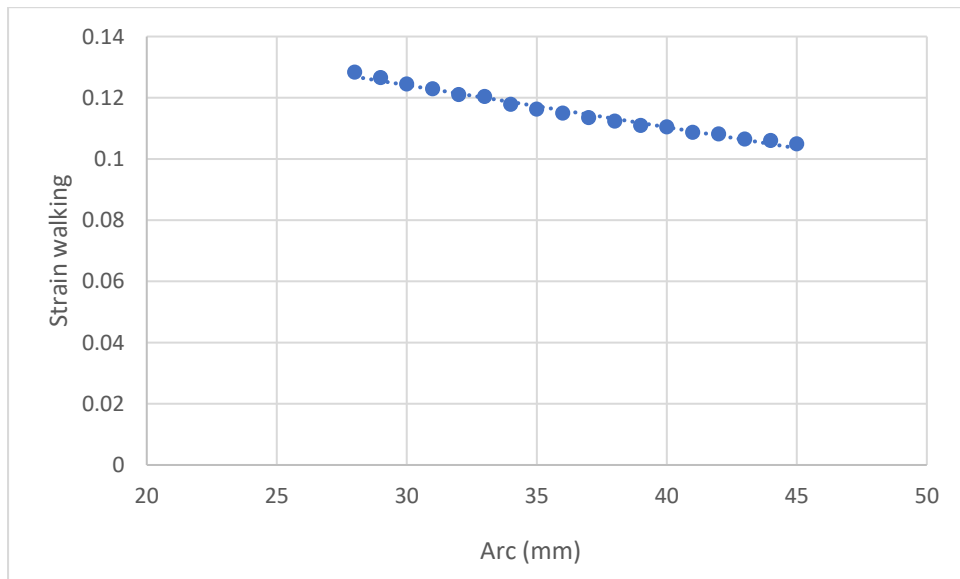
	<b>Mean</b>	<b>SD</b>
Walking Velocity (m/s)	1.62	0.21

Table S3: Input peak medial tibiofemoral forces

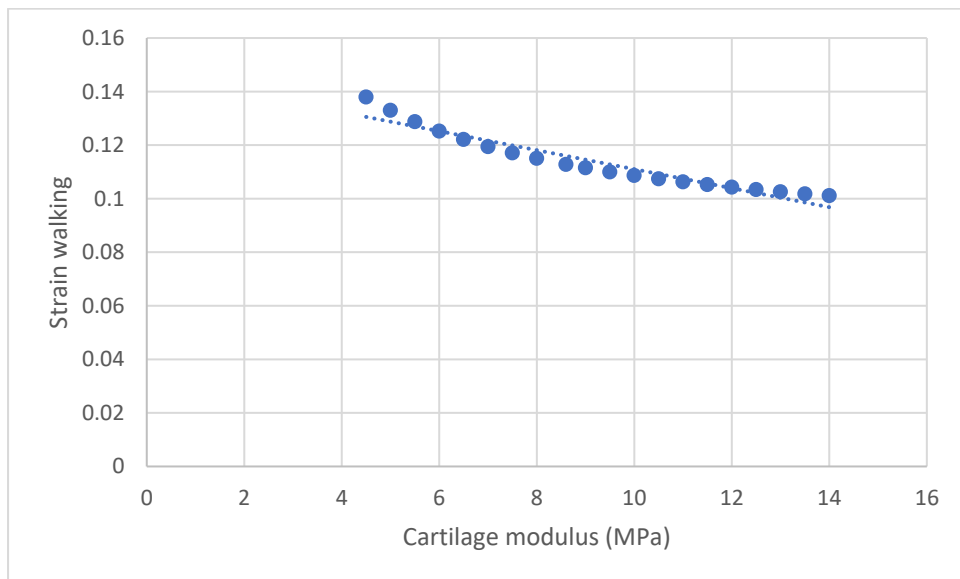
	<b>Mean</b>	<b>SD</b>
Peak medial tibiofemoral force walking (BW)	3.25	0.55

Linear line of best fit included to highlight the nature of the data distribution.

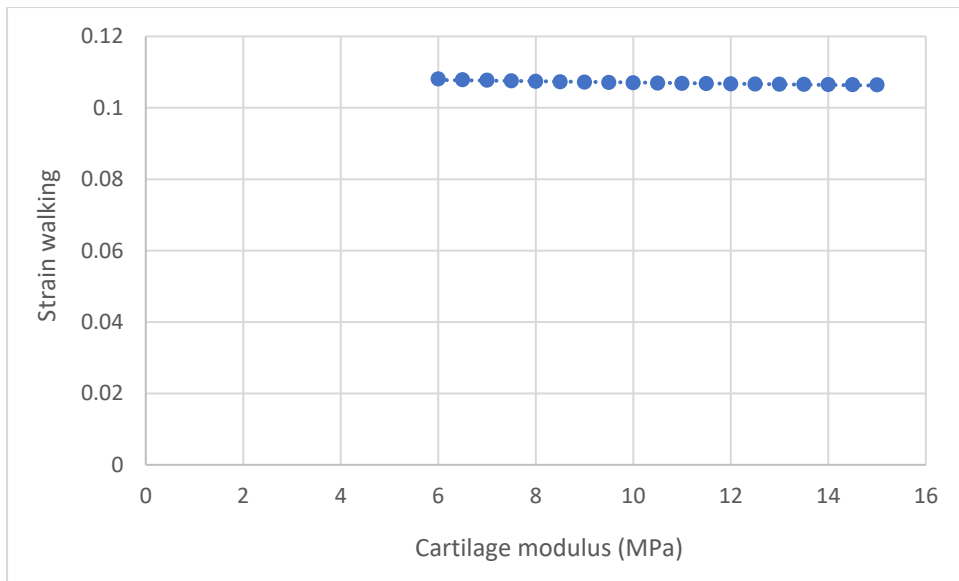
**Figure S1: Anterior femoral arc in sagittal plane**



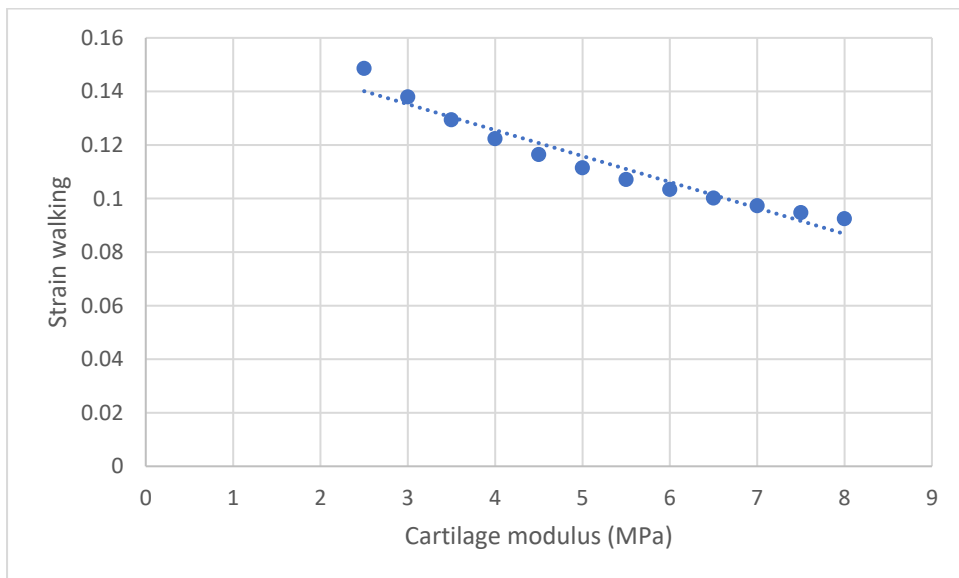
**Figure S2: Femoral cartilage modulus**



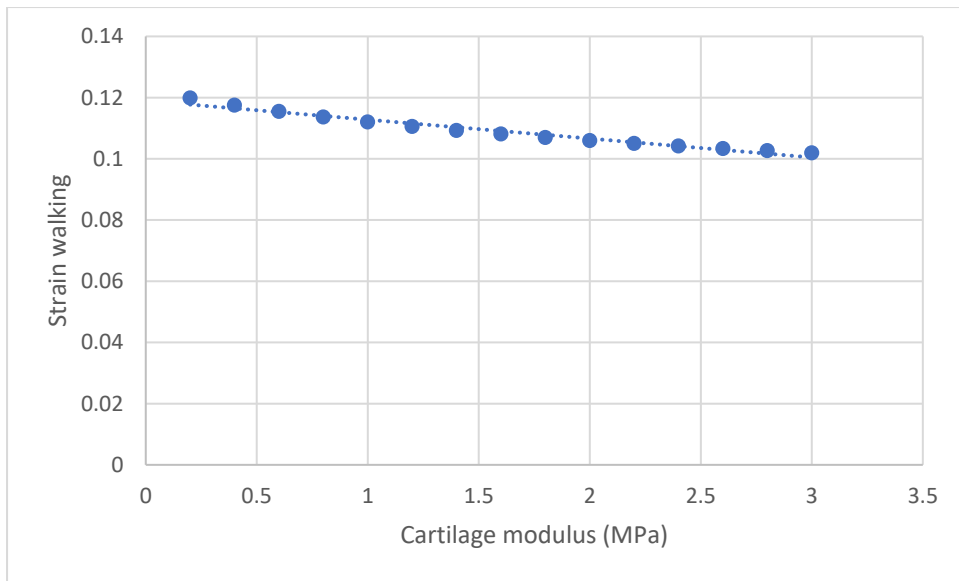
**Figure S3: Covered tibial cartilage modulus**



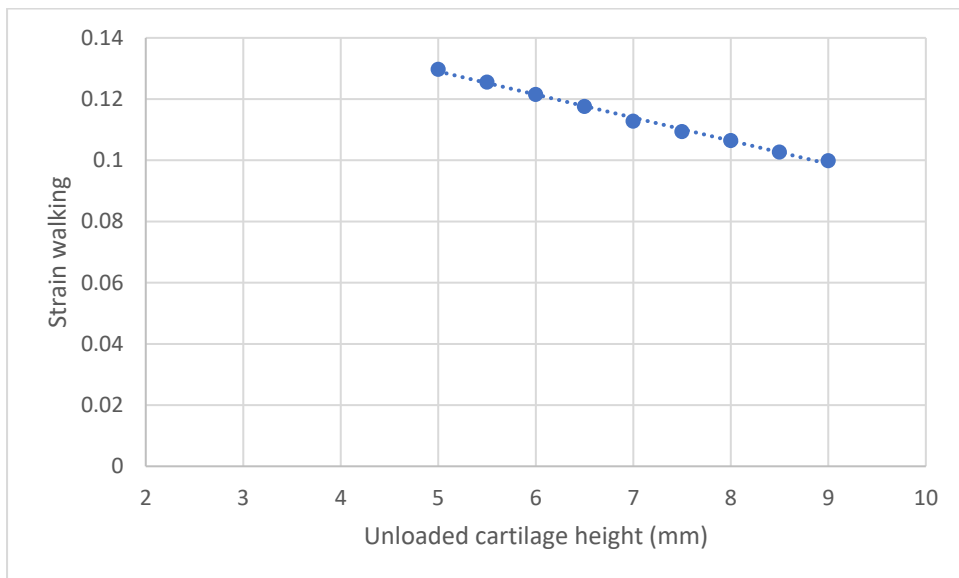
**Figure S4: Uncovered tibial cartilage modulus**



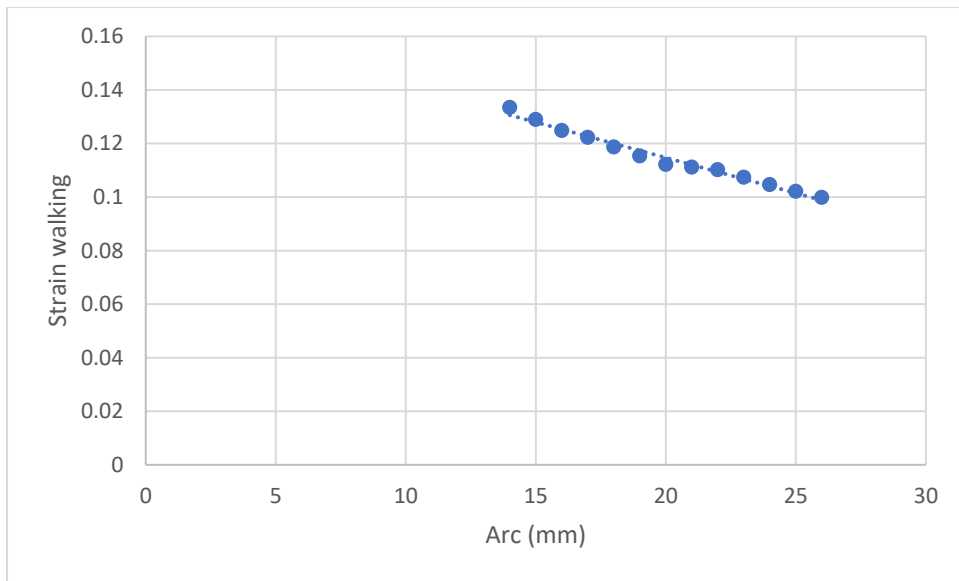
**Figure S5: Meniscus modulus**



**Figure S6: Unloaded cartilage height**



**Figure S7: Frontal tibial arc**



**Figure S8: Poisson's ratio**

