



Figure 1. Flow diagram of the design process for the creation of anthropomorphic surrogate organ models. To establish a robust physical characterisation methodology, international test standards; ASTM D2240-15(2021), ISO 48-4:2018, BS/ISO 23529:2016, ASTM D412-16(2021), ISO 5893:2019/AMD 1:2020, BS/ISO 37:2017 and BS EN ISO 20932-2:2020 were used for test specimen preparation and characterisation. Each mechanical test standard was selected due to its suitability to replicate organ tactility and response to deformation during handling and palpation. In particular, standard ASTM D2240-15(2021) (table x1.1 in the standard) specifies that the 00 Shore hardness scale is suitable for characterisation of both extremely soft rubber and human and animal tissues alike. All other standards used for this study were adapted from standards designed for materials like elastomers or elasticated fabrics because it is well known that soft tissues exhibit some mechanical properties of both material types.