

ANEURYSM RUPTURE RISK ESTIMATION

SOFT TISSUE ENGINEERING

FACULTY OF
ARCHITECTURE AND
ENGINEERING

AUTHOR: VINCENT BELPAIRE
ROLE: STUDENT AT UGENT
DATE: NOVEMBER 2, 2022

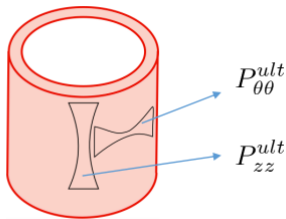
ABSTRACT

LOREM IPSUM DOLOR SIT AMET, CONSECTETUER ADIPISCING ELIT. ETIAM LOBORTIS FACILIS SEM. NULLAM NEC MI ET NEQUE PHARETRA SOLLICITUDIN. PRAESENT IMPERDIET MI NEC ANTE. DONEC ULLAMCORPER, FELIS NON SODALES COMMODO, LECTUS VELIT ULTRICES AUGUE, A DIGNISSIM NIBH LECTUS PLACERAT PEDE. VIVAMUS NUNC NUNC, MOLESTIE UT, ULTRICIES VEL, SEMPER IN, VELIT. UT PORTTITOR. PRAESENT IN SAPIEN. LOREM IPSUM DOLOR SIT AMET, CONSECTETUER ADIPISCING ELIT. DUIS FRINGILLA TRISTIQUE NEQUE. SED INTERDUM LIBERO UT METUS. PELLENESQUE PLACERAT. NAM RUTRUM AUGUE A LEO. MORBI SED ELIT SIT AMET ANTE LOBORTIS SOLLICITUDIN. PRAESENT BLANDIT BLANDIT MAURIS. PRAESENT LECTUS TELLUS, ALIQUET ALIQUAM, LUCTUS A, EGESTAS A, TURPIS. MAURIS LACINIA LOREM SIT AMET IPSUM. NUNC QUIS URNA DICTUM TURPIS ACCUMSAN SEMPER.

1 A first estimate of aneurysm rupture risk

1.1 Estimating tissue strenght based on a uniaxial tensile test

THE TISSUE STRENGHT IS HERE DEFINED AS THE ULTIMATE STRESS VALUE OBTAINED IN A UNIAXIAL TENSILE TEST, BEFORE DAMAGE OCCURS. SINCE UNIAXIAL TENSILE TESTS WERE PERFORMED ON CIRCUMFERENTIALLY ($P_{\theta\theta}^{ult}$) AS WELL AS AXIALLY (P_{zz}^{ult}) ORIENTED SAMPLES, WE CAN DEFINE THE STRENGTH IN THE CIRCUMFERENTIAL AS WELL AS IN THE AXIAL DIRECTION.



- 2 A second aneurysm rupture risk estimate
- 3 A third aneurysm rupture risk estimate