Materials Testing for PLG 85-15 for use in ACL Reconstruction

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Objective

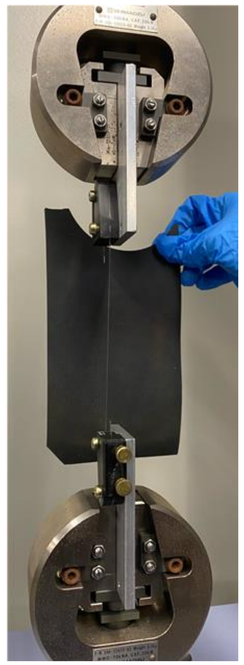
Assess PLG 85-15 as an option for ACL tissue graphs

Test Method

How do the material properties change as the material degrades?

PLG 85-15 filament immersed in a Phosphate Buffer Saline (PBS) solution
Weekly Materials testing on the degrading specimens

Simple Tension test
Creep test
Stress Relaxation test

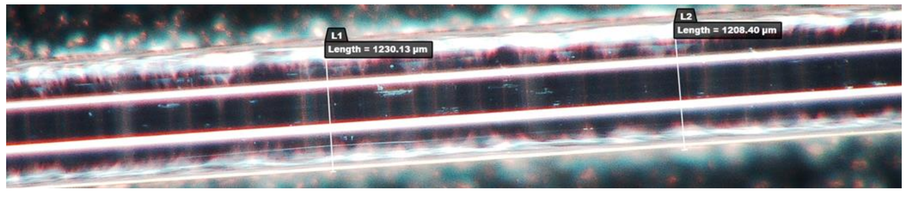


Benefits of Synthetic Materials

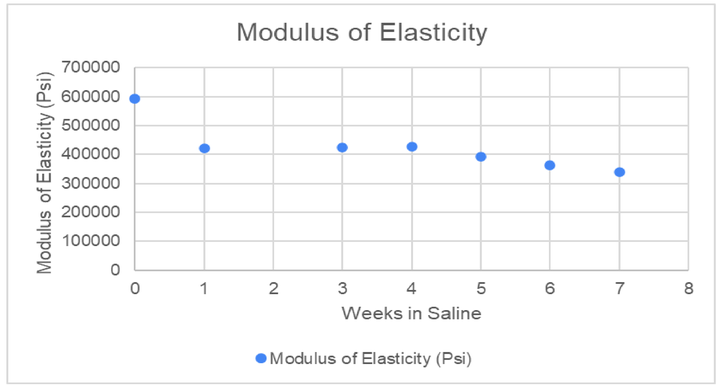
. Simplifies surgery
. Avoids graft harvesting
. Easily available
. Material properties equal or better than human ligament
. Reduces Risk of Rejection

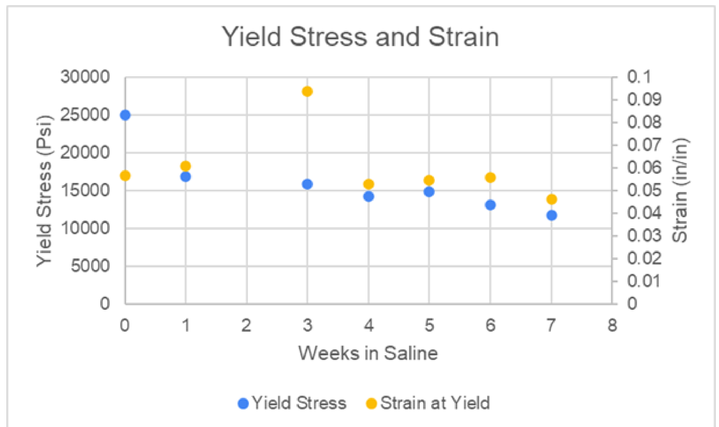
PLG 85-15 and 10-90

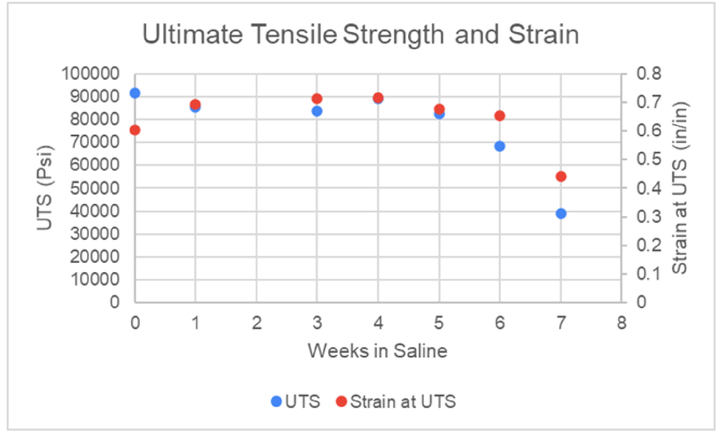
. Degradation rate varies with molar ratio
. PLG lactic - glycolic
. PLA degrades slower than PGA



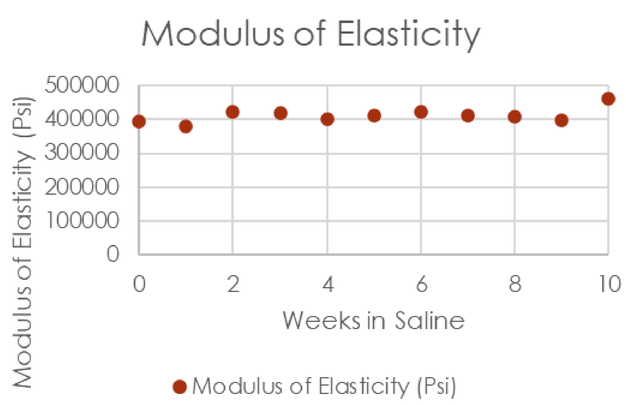
PLG 10-90

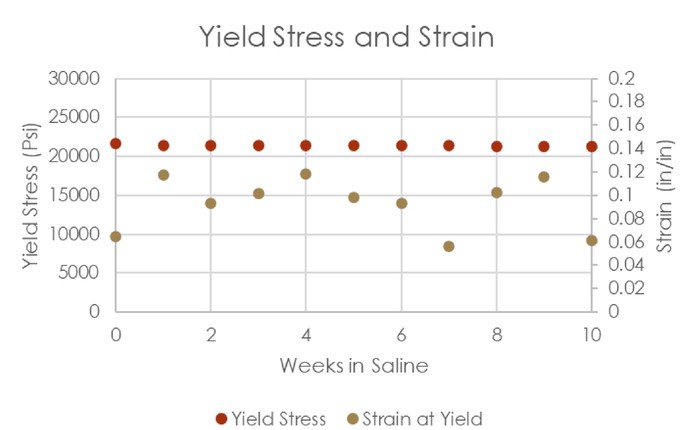


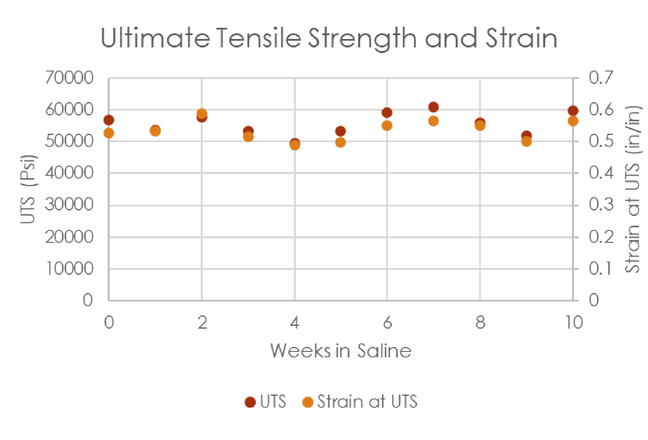




PLG 85-15







Results

Due to the limited decay of the PLG 85-15 it was determined that this Polymer would not be a desirable candidate for ligament repair