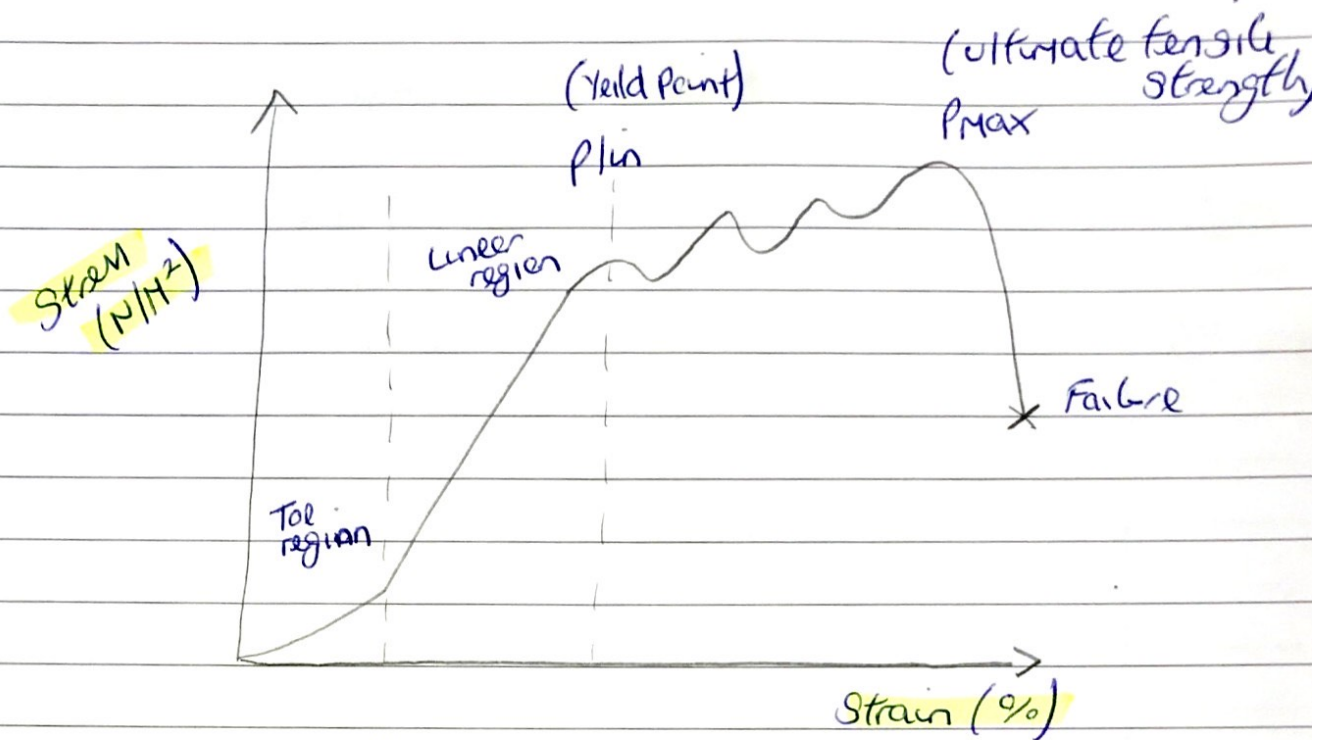


TENDON STRESS STRAIN CURVE



Toe region = Straightening of crumpled fibres

Dips = early sequential failure of a few stretched fibres

Most tendons fail after length increase of only a few %

Ligamentum flavum (elastic) can withstand > 70% elongation

Healing phases

1. **Inflammation / haemorrhagic** Macrophages remove debris
 2. **Proliferation** New blood vessels & fibroblasts produce type III collagen
 3. **Remodelling** Conversion of collagen to type I
Alignment of fibres more physiological
(in response to loading - i.e. rehab)
- Surgical tendon repairs weakest at 3-4 wks, full strength 6 months