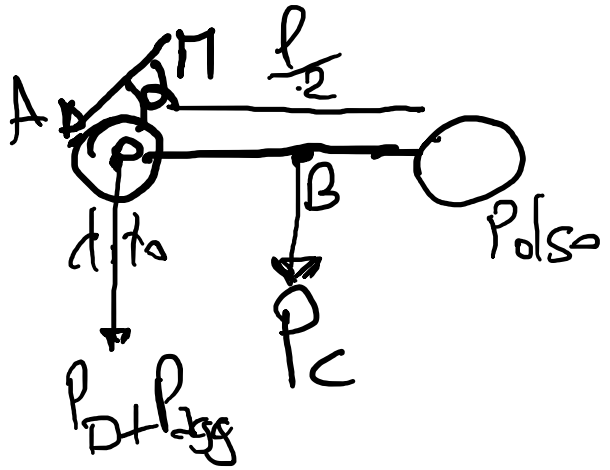


$P_{agg} = 50\,N$

$\alpha = 30°$

Sono

$\Pi \cdot \overline{OA} = P_C \cdot \frac{l}{2}$

$\Pi = P_C \frac{l}{2 \cdot OA}$

$\varepsilon_z = \frac{R_z}{\pi R_f^2 F} \cdot \frac{1}{\varepsilon_{org}^z}$

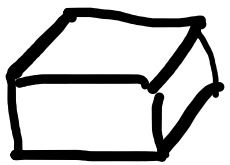
$\varepsilon_{xy} = \frac{R_{xy}}{2\pi R_f h_p} \cdot \frac{1}{\varepsilon_{org}^{xy}}$

$R_z = -P_C - P_D - P_{agg} - \Pi \sin\alpha$

$R_{xy} = -\Pi \cos\alpha$

R_p, h_p, ρ_g

$\rho_g = \frac{kg}{m^3}$



$\varepsilon_z = \frac{R_z}{\pi R_f^2} \cdot \frac{1}{\varepsilon_{OR}^z} + \frac{R_z}{\pi R_{sf}^2} \cdot \frac{1}{\varepsilon_n} +$

$+ \frac{R_z}{2\pi R_g^2} \cdot \frac{1}{\varepsilon_n}$

$\varepsilon_{xy} = \frac{R_{xy}}{2\pi R_f h_f} \cdot \frac{1}{\varepsilon_{ofc}^{xy}} + \frac{R_{xy}}{2\pi R_{sf} h_{sf}} \cdot \frac{1}{\varepsilon_n} + \frac{R_{xy}}{2\pi R_g^2} \frac{1}{\varepsilon_n}$

$$E_z = \frac{E_{oc}^t \, E_{os}}{0.98 \cdot E_{oc}^z + 0.02 \, E_{os}}$$

$$E_{xy} = 0.02 \, E_{oc}^{xy} + 0.98 \, E_{os}$$

$$E_z = \frac{E_{OR}^z \cdot E_P}{f_P \, E_{OR}^z + f_{OR} \, E_P}$$

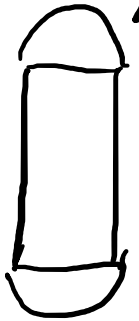
$$E_{xy} = E_{OR}^{xy} \, f_{OR} + E_P \, f_P$$

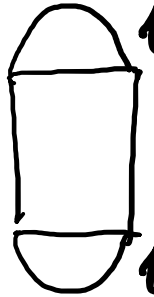
$$f_P + f_{OR} = 1$$

$$V_{TOT} = \pi R^2 f h_f + \frac{2\pi R^3}{3}$$

$$f_P = \frac{\pi 2^2 s t h_{st} + \frac{2}{3} \pi R^3}{V_{TOT}}$$

$$f_{OR} = \frac{\pi 2^2 f h_f - \pi 2^2 s t h_{st}}{V_{TOT}}$$





TOTALE

$f_{OS} = 25\%$

$f_{OC} = 75\%$

completo

$$E_{z_{com}} = \frac{E_{OS}\, E^{z}_{OC_{com}}}{f_{OS} E^{z}_{OC_{com}} + f_{OC} E_{OS}}$$

$$E_{xy_{com}} = f_{OS} E_{OS} + f_{OC} E^{xy}_{OC_{com}}$$

$$E_{z_F} = \frac{E_{OS} \cdot E^{z}_{OCF}}{f_{OS} \cdot E^{z}_{OCF} + f_{OC} E_{OS}}$$

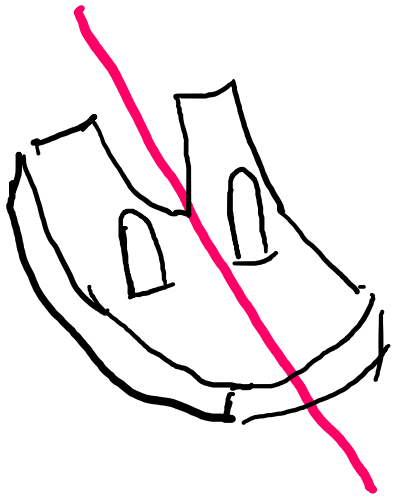
femore

$$E_{xy} = f_{OS} E_{OS} + f_{OC} E^{xy}_{OCF}$$

TIBIA

$$E_{z_T} = \frac{E_{OS}\, E^{z}_{OC_T}}{f_{OS} E^{z}_{OC_T} + f_{OC} E_{OS}}$$

$$E_{xy} = f_{OS} E_{OS} + f_{OC} E^{xy}_{OC_T}$$

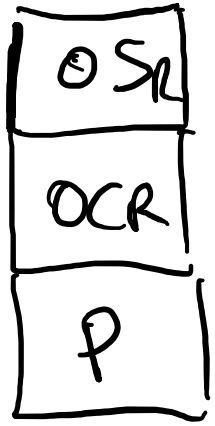


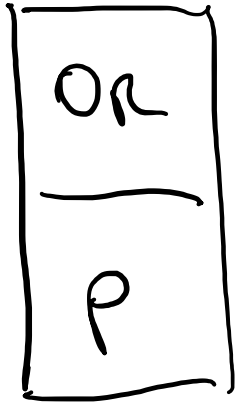
R_p, h_p

$R_{int\,solco}, R_{est\,solco}, \delta_{dente}$

R_{curv}

$R_{curv} = R_{est\,solco}$ — femorale



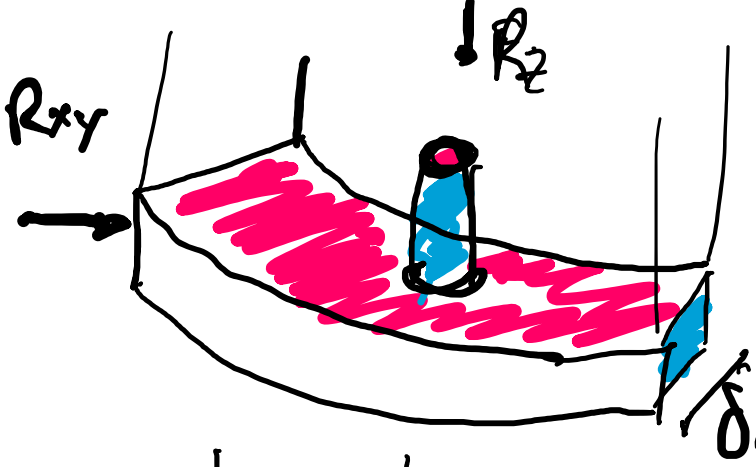


$$E_z = \frac{E_{OR}^z E_p}{f_p E_{OR}^z + f_{OR} E_p}$$

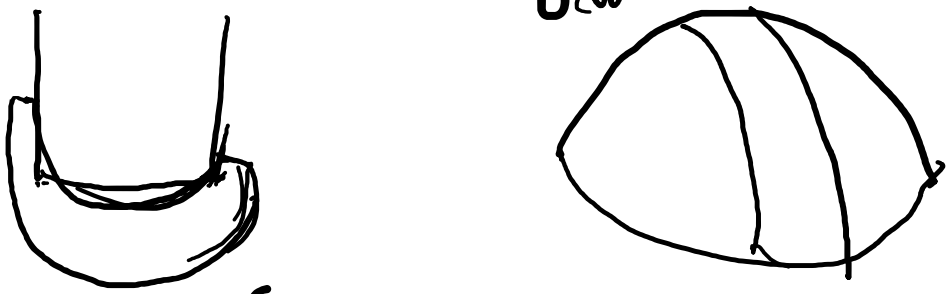
$$E_{xy} = f_p E_p + f_{OR} E_{OR}^{xy}$$

$$f_p + f_{OR} = 1$$

$\sigma_z = \sigma_{xy} =$



$$\frac{R_z}{\pi 2_{int}^{\delta} \delta_{ent}} = \frac{R_{x-1}}{2\pi 2 p h p + \delta \cdot \delta_{ent} (R_{est} - R_{int})}$$



$$\sigma_T = \frac{M_T \cdot 2}{J} =$$

$$\sigma_T = \frac{\left(R_{xy} \cdot 2p\right) \cdot 2p}{\frac{\pi}{2}\left(2_F^4 - 2_p^4\right)}$$