Solution: Exercise for smokers

Considering the assumptions stated in the problem, we have:

- $A = 0.561 \, \text{pCi}$ cigarette $= 20.757 \, \text{mBq}$ cigarette
- $A^T = 622.710 \, \text{mBq}$ 20 cigarettes

The dose equivalent is:

- $D^T = \frac{A^T \times E_x \times t}{m} \approx 16.75 \, \text{mSv/yr}$
- $H^T = D^T \times W_e = 334.93 \, \text{mSv/yr}$
- $E^T = H^T \times W_T = 50.19 \, \text{mSv/yr}$

Please note that the dose equivalent $H \approx 335 \, \text{mSv/yr}$ (or the dose effective for $W_T = 1$) corresponds to an effective dose what everyone receives on the average from the outer space ($330 \, \text{mSv/yr}$).