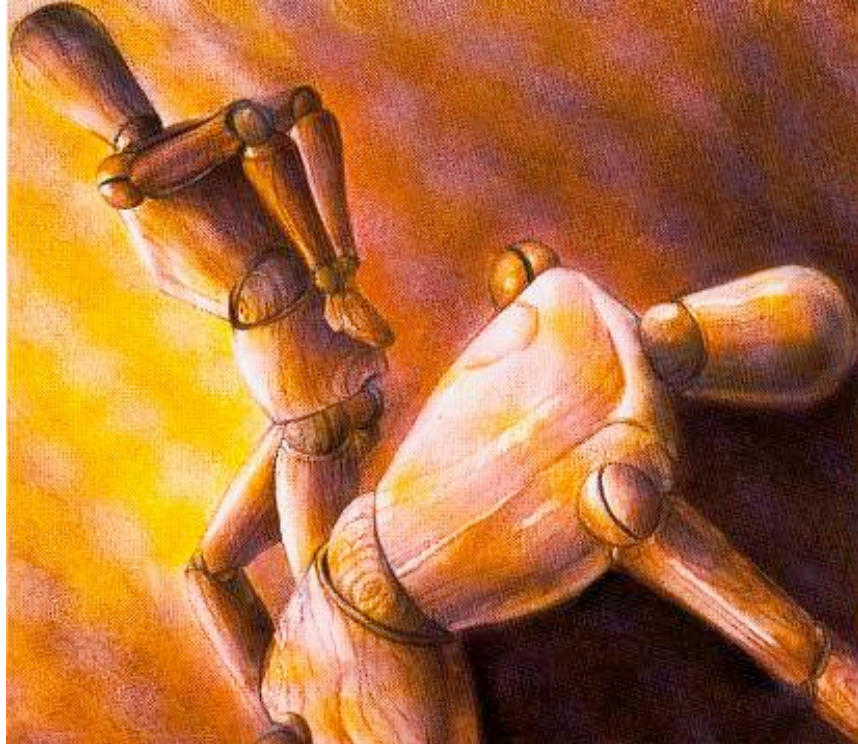


# MTONDOS



Principe du verrouillage lombaire

[www.mtondos.com](http://www.mtondos.com)

# Attention



# Alarmant

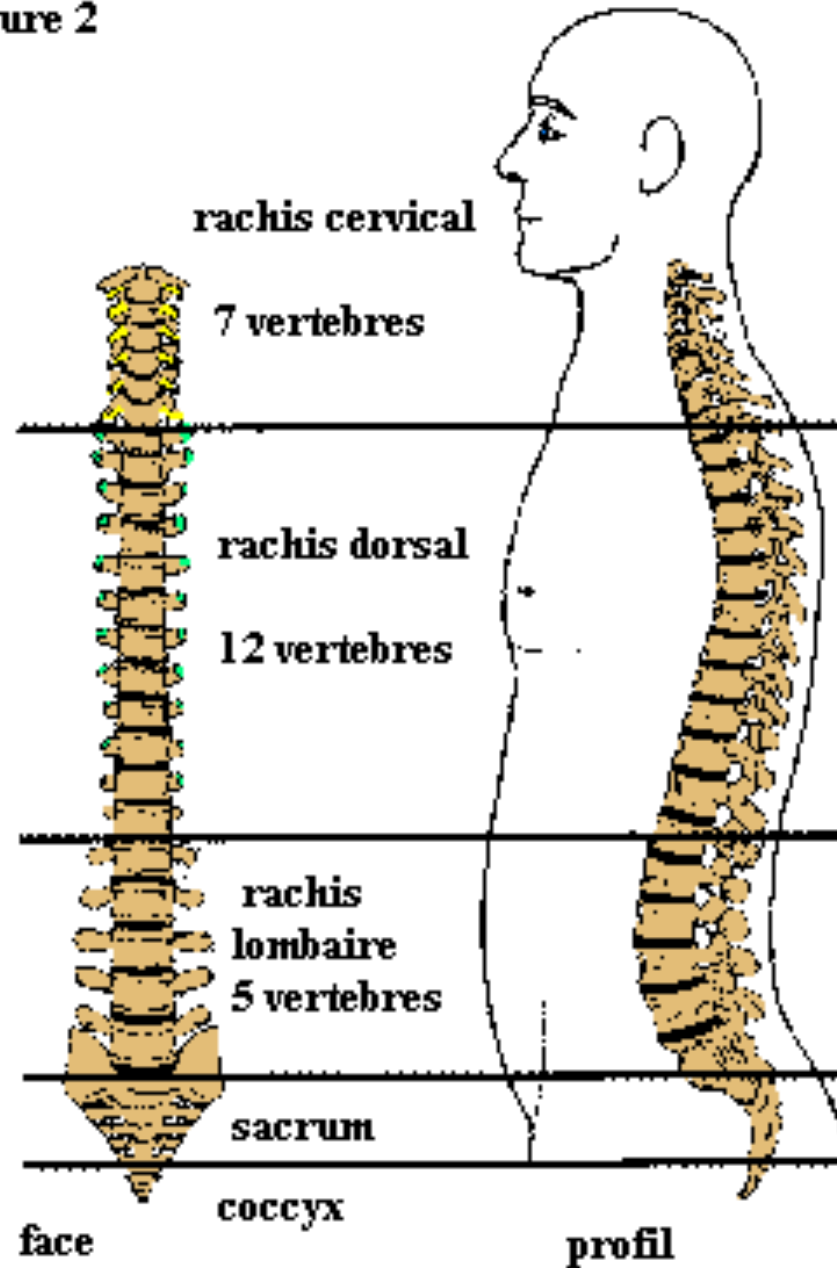


# Grandes lignes

- Première cause d'arrêt de travail
- 3 600 000 journées de travail perdues, 110000 arrêts de travail en augmentation constante
- 500 millions d'euros
- Passage à la bipédie
- Nécessite une prise en charge volontaire
- Un dos est-il fragile?
- Pourquoi la douleur?

# Colonne vertébrale

figure 2



# Lordose lombaire

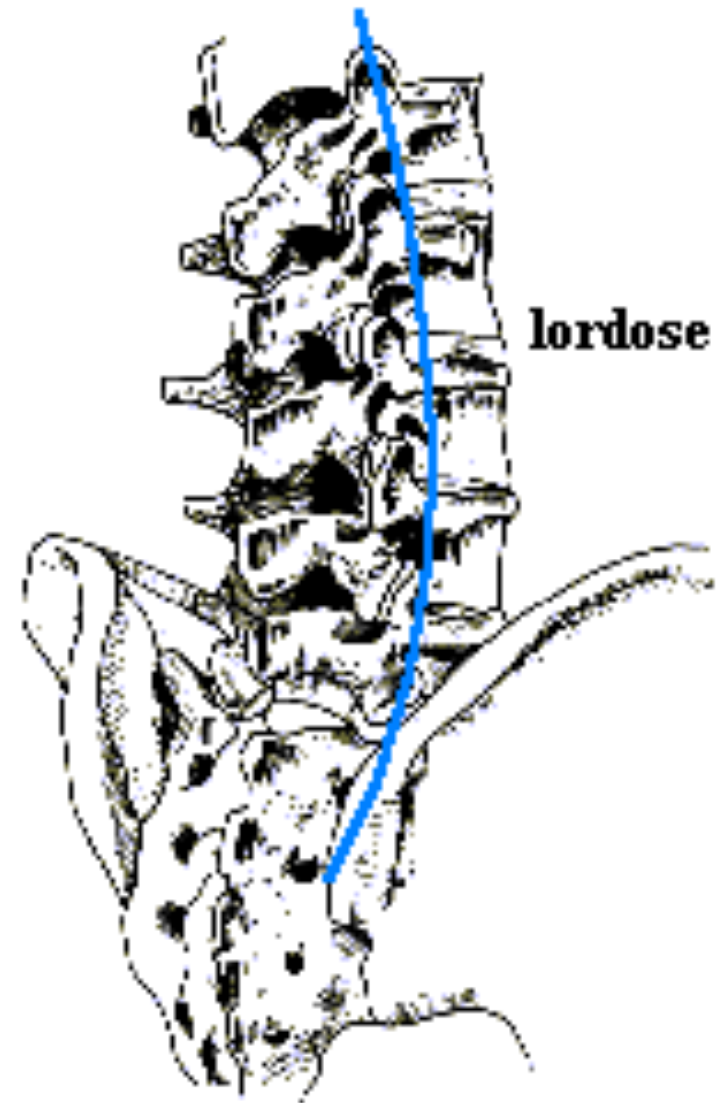


figure 4

# Disque intervertébral

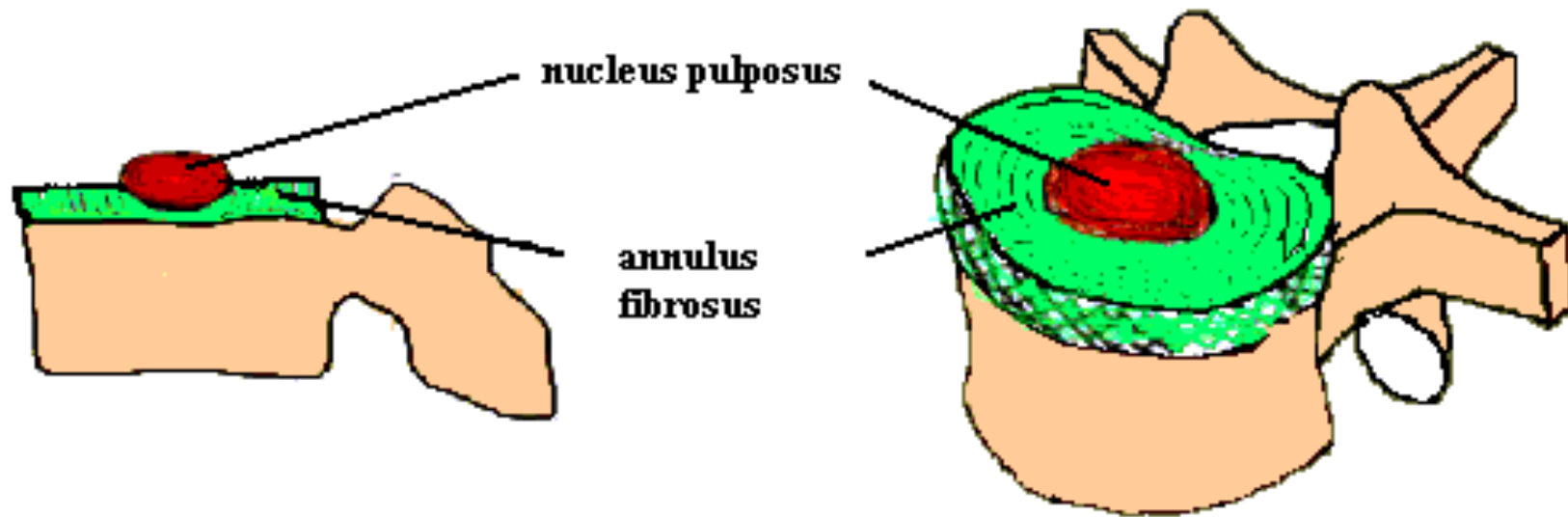
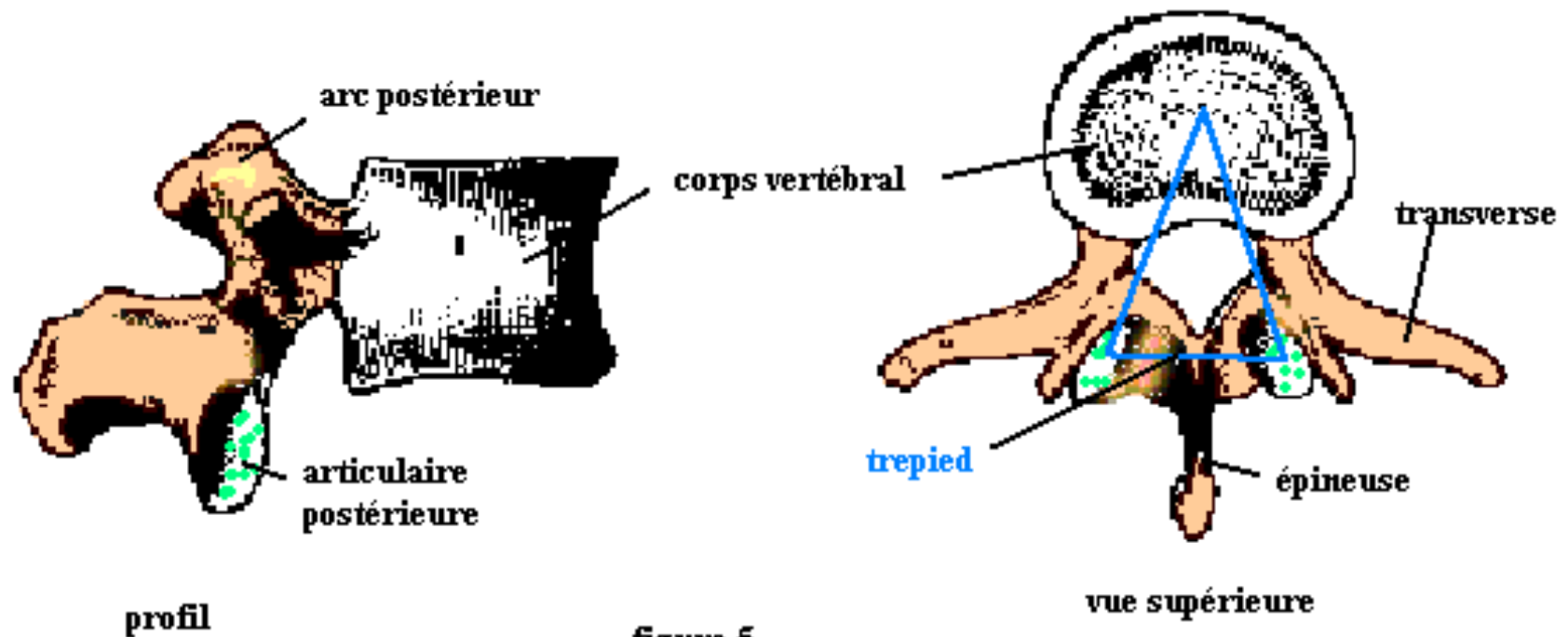


figure 1

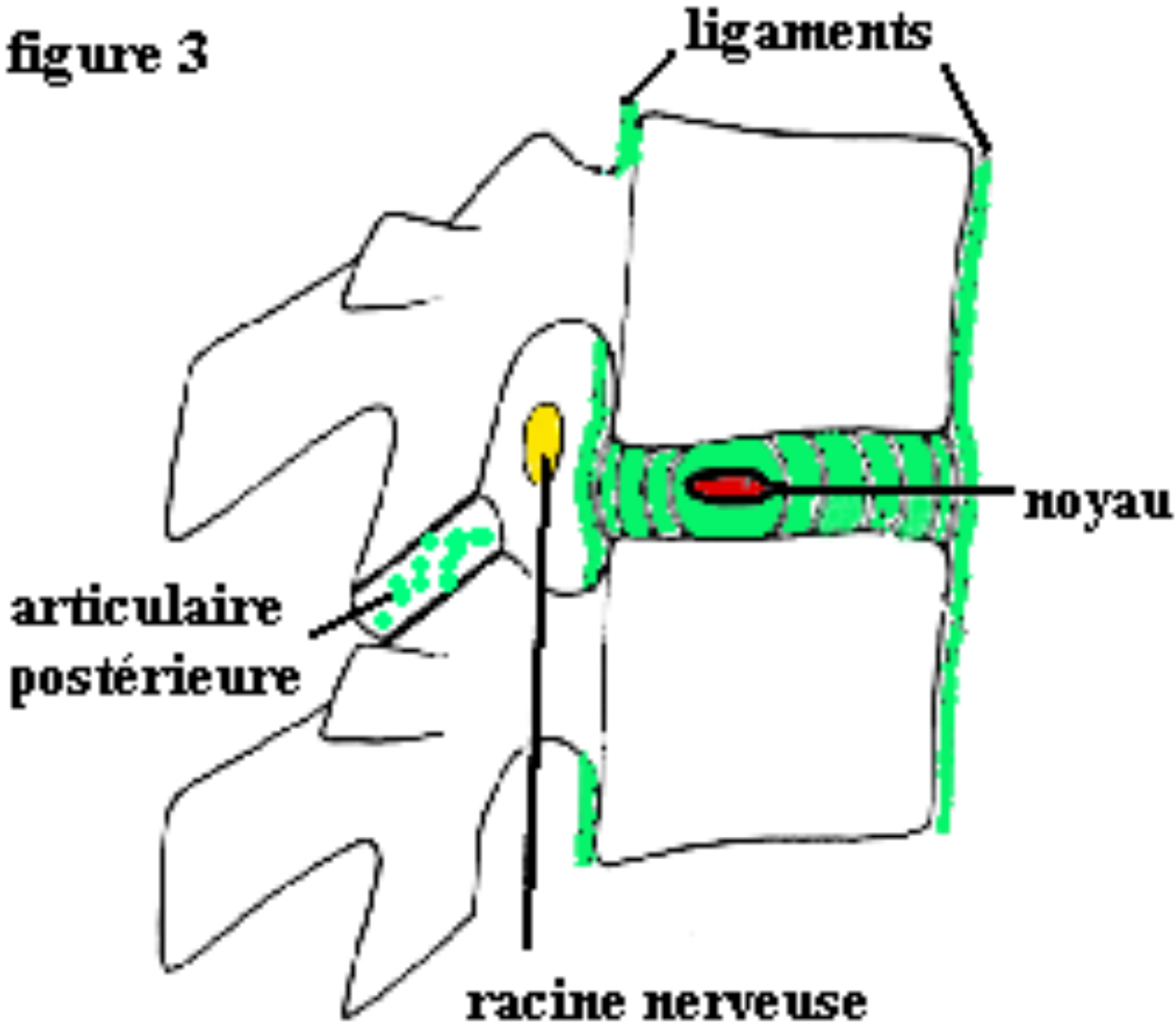
# Vertèbre lombaire





LCVP  
LCVA

figure 3



# Ligaments

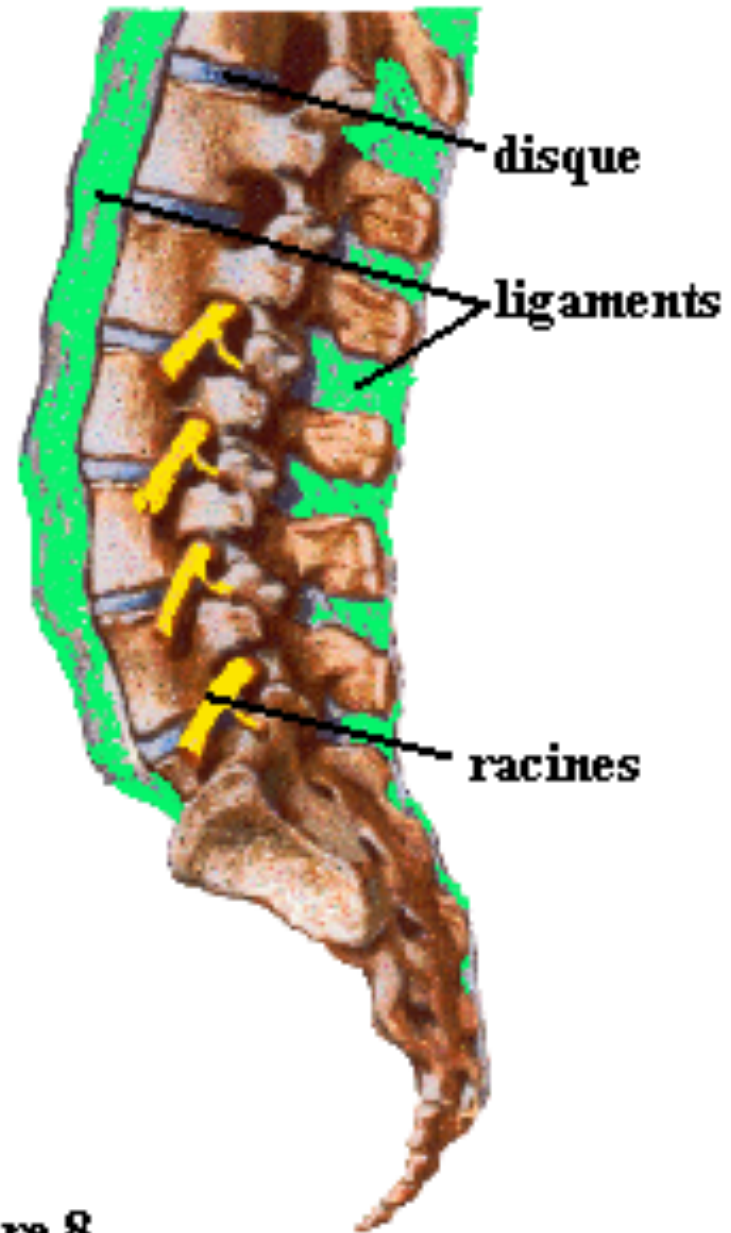


figure 8

# Spinaux profonds

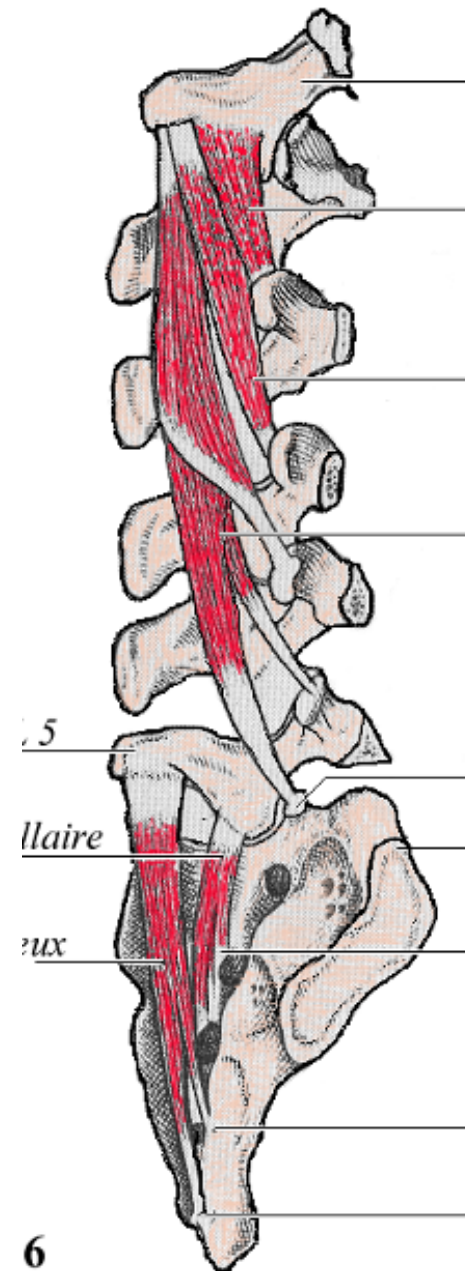
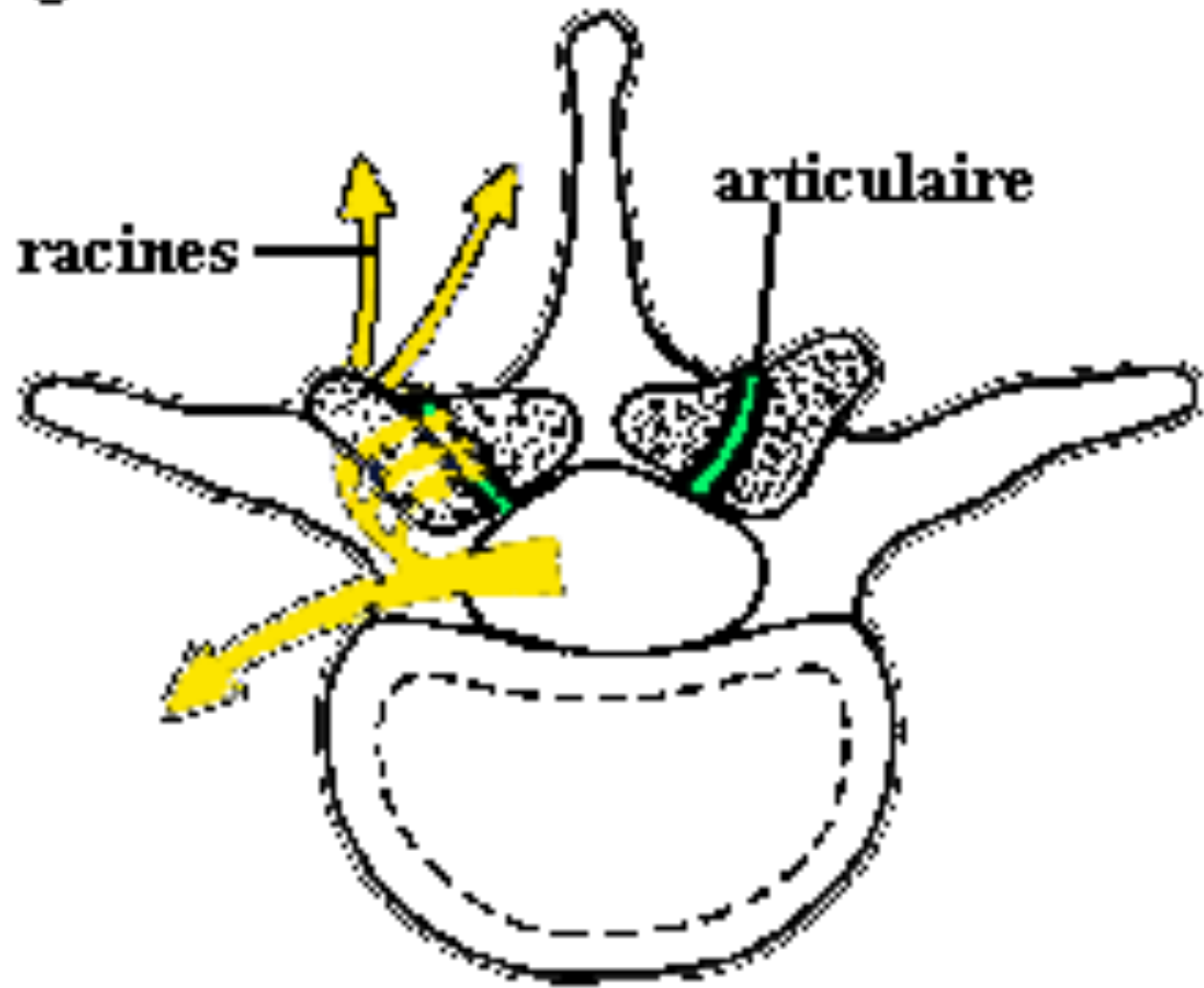
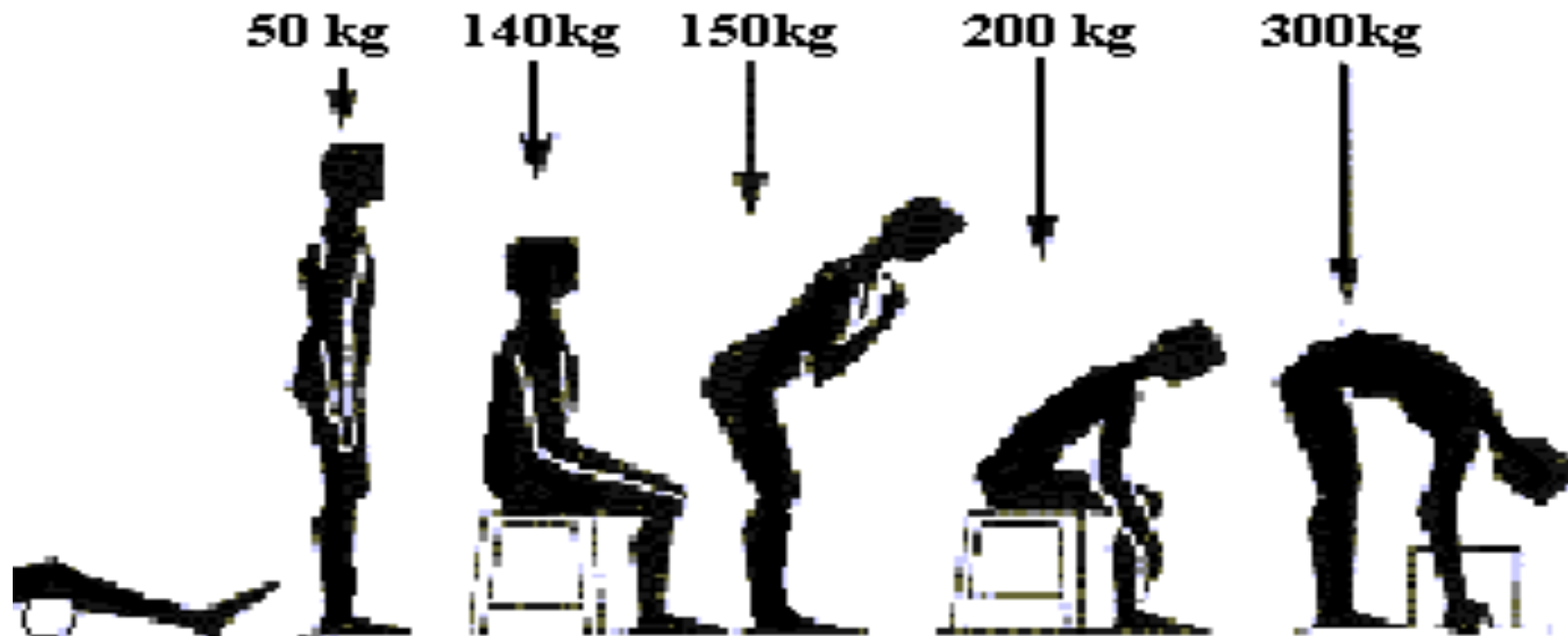


figure 7



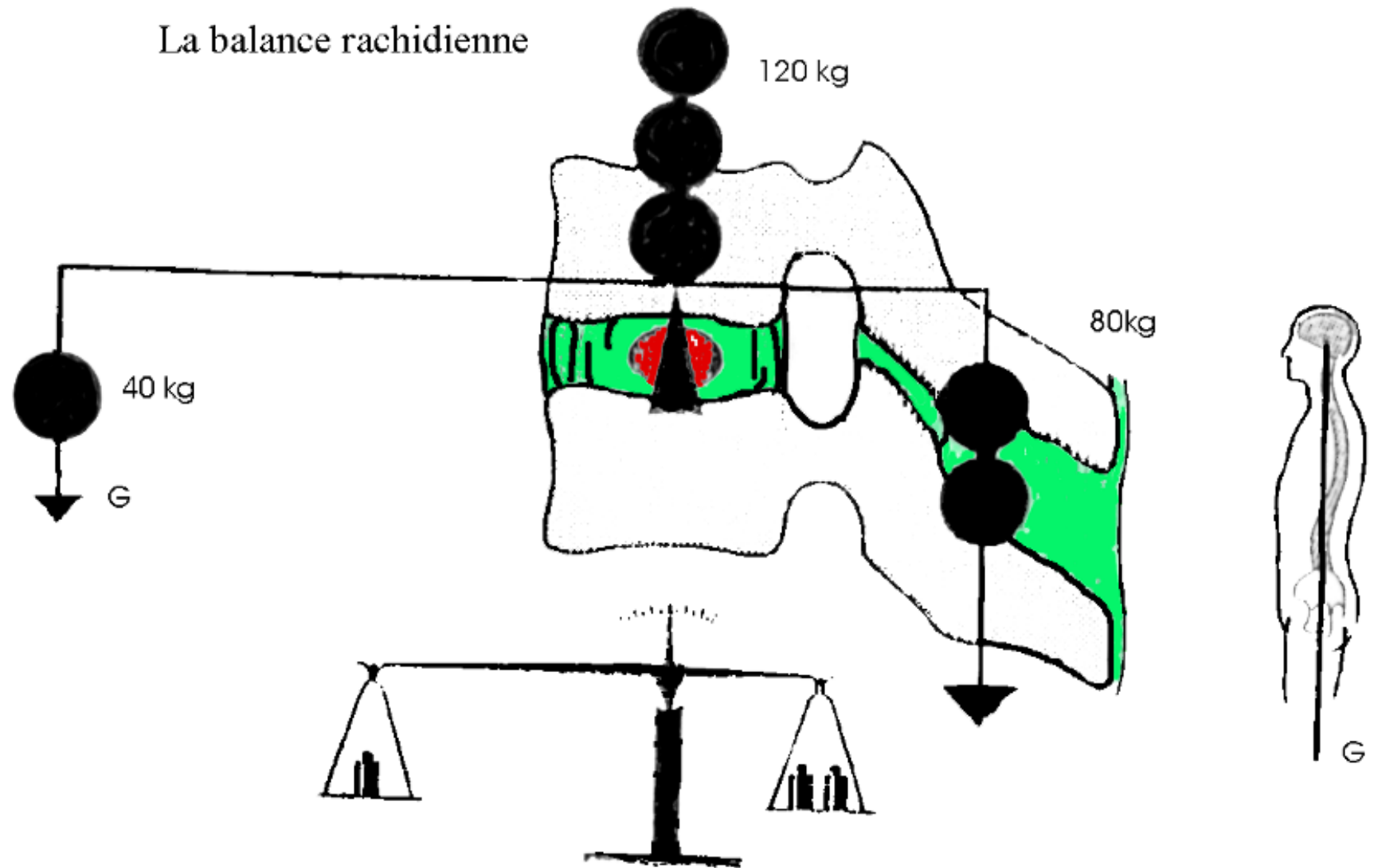
Racines  
nerveuses

# Contraintes L5/S1



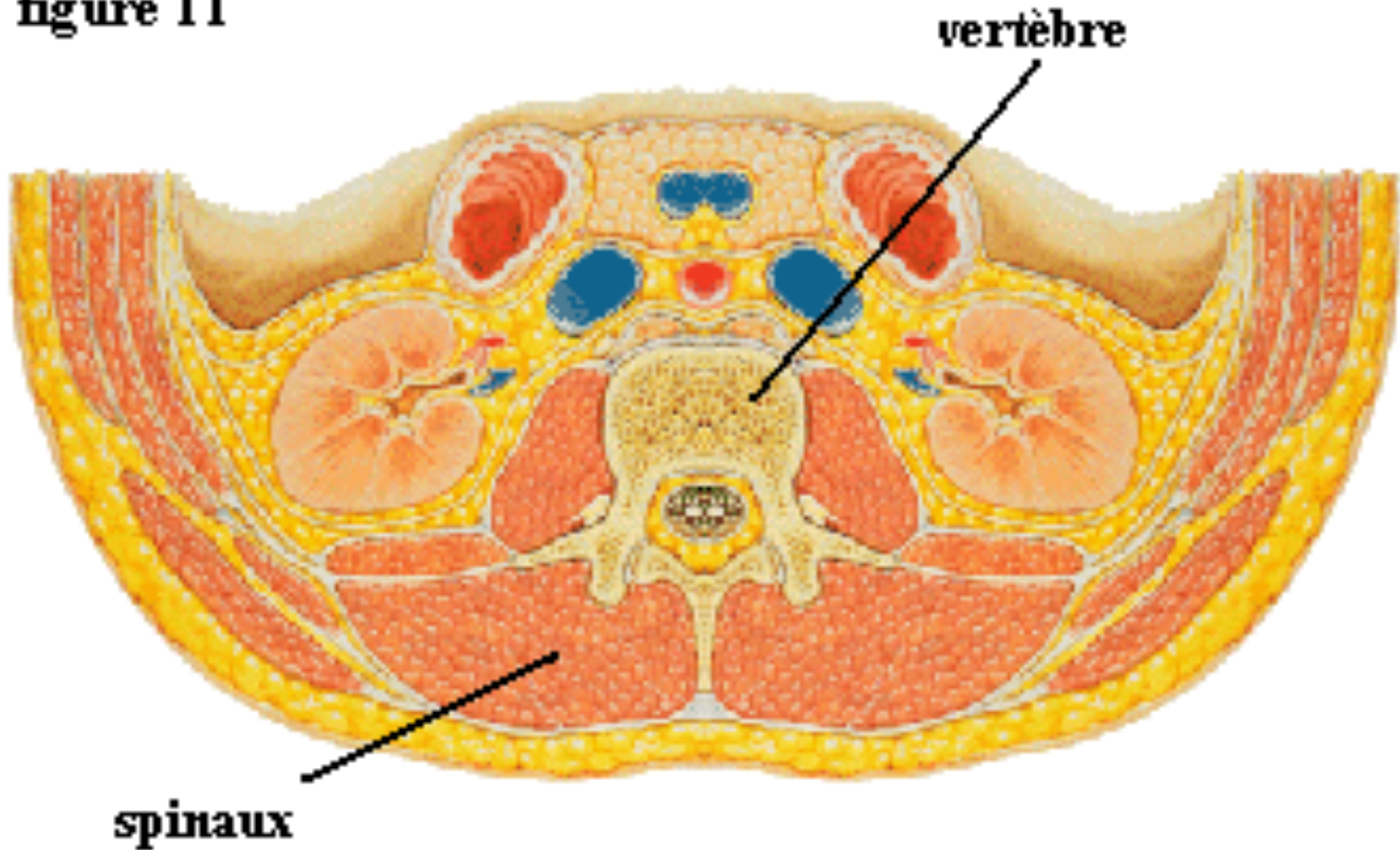
**pression exercée sur le disque intervertébral**

# Balance rachidienne



# Poutre composite

figure 11



# Corset musculaire

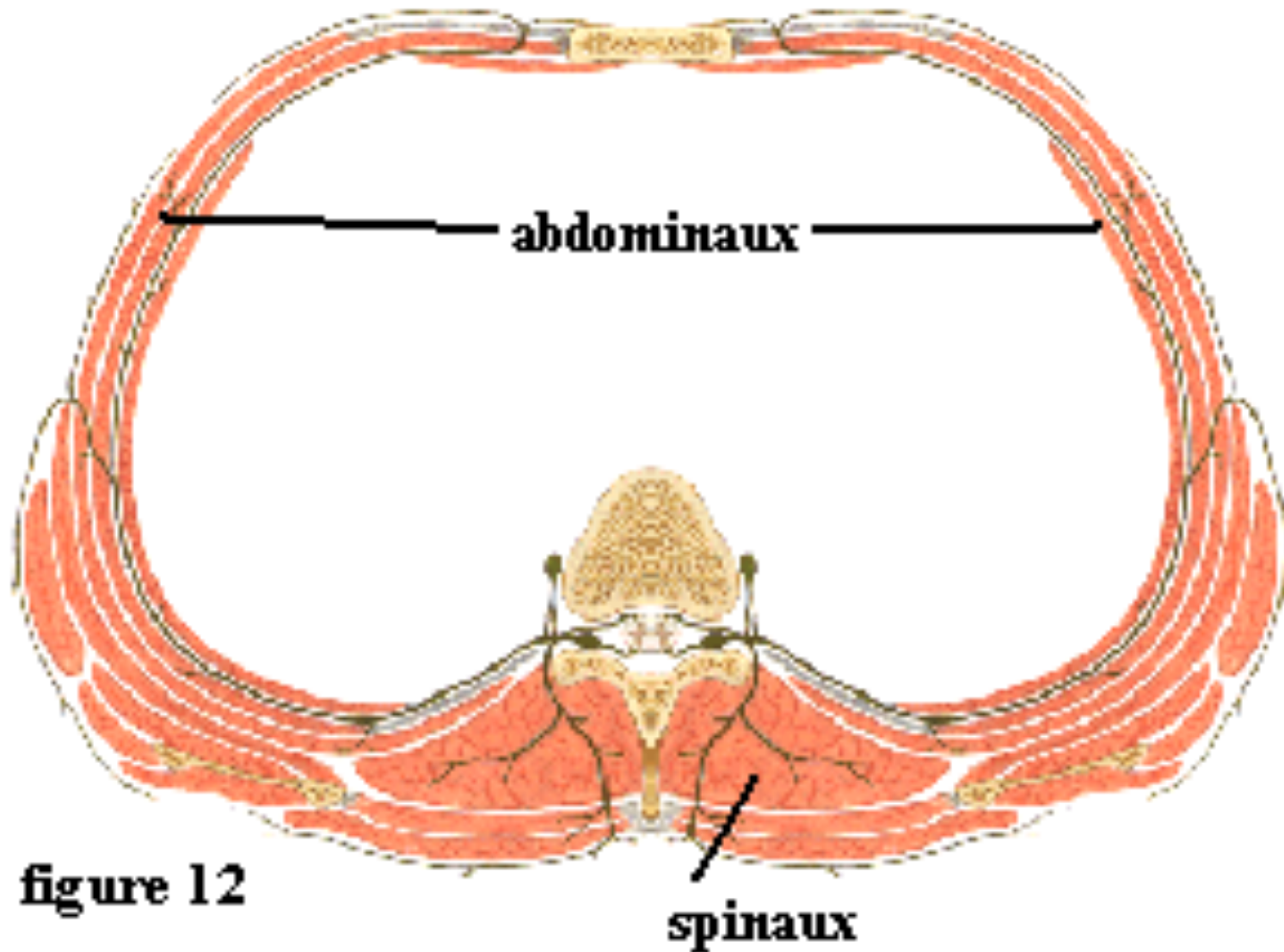


figure 12



# Evaluation musculaire

| Pic du couple en N/m 30°/s | Abdominaux | Spinaux | Ratio A/S |
|----------------------------|------------|---------|-----------|
| Sujet sain                 | 307        | 369     | 0,8       |
| Lombalgie chronique        | 287        | 201     | 1,4       |

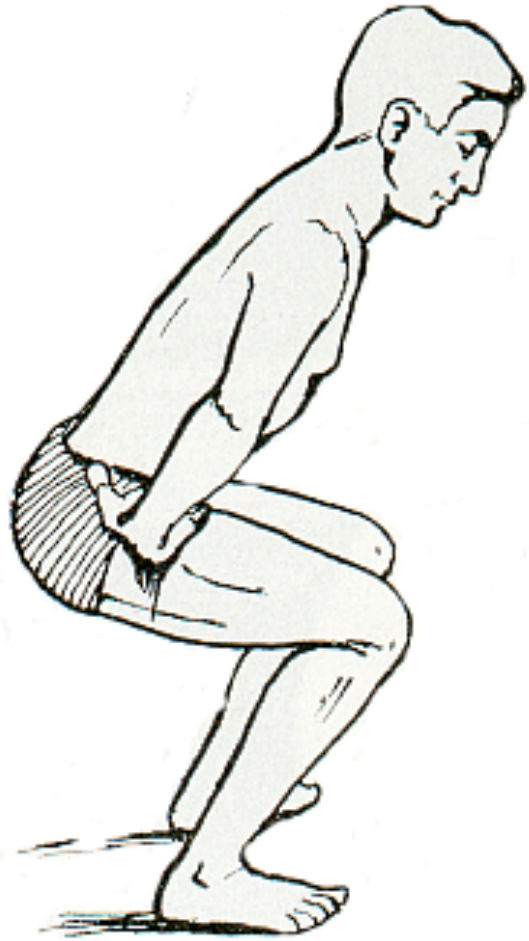
# Facteurs de risques

- Vitesse
  - Charge
  - Amplitude extrême
- 
- $E_c = 1/2mv^2$
  - $E_p = mgh$

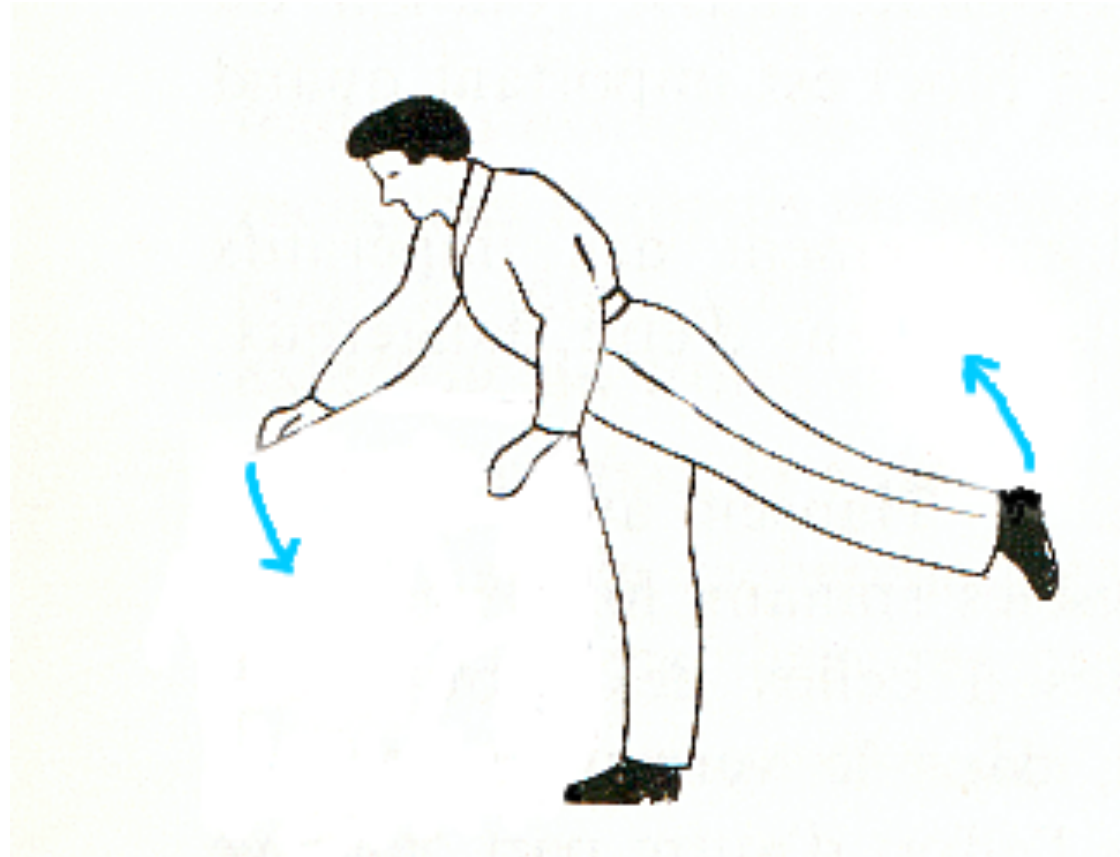
# Verrouillage lombaire

- Olivier Troisier, Hôpital Foch
- Immobilisation parfaite et volontaire des lombaires
- En statique ou en dynamique
- Position intermédiaire
- Co-contraction abdominaux spinaux
- Utilisation des membres inférieurs
- **Mobilité sous-jacente**

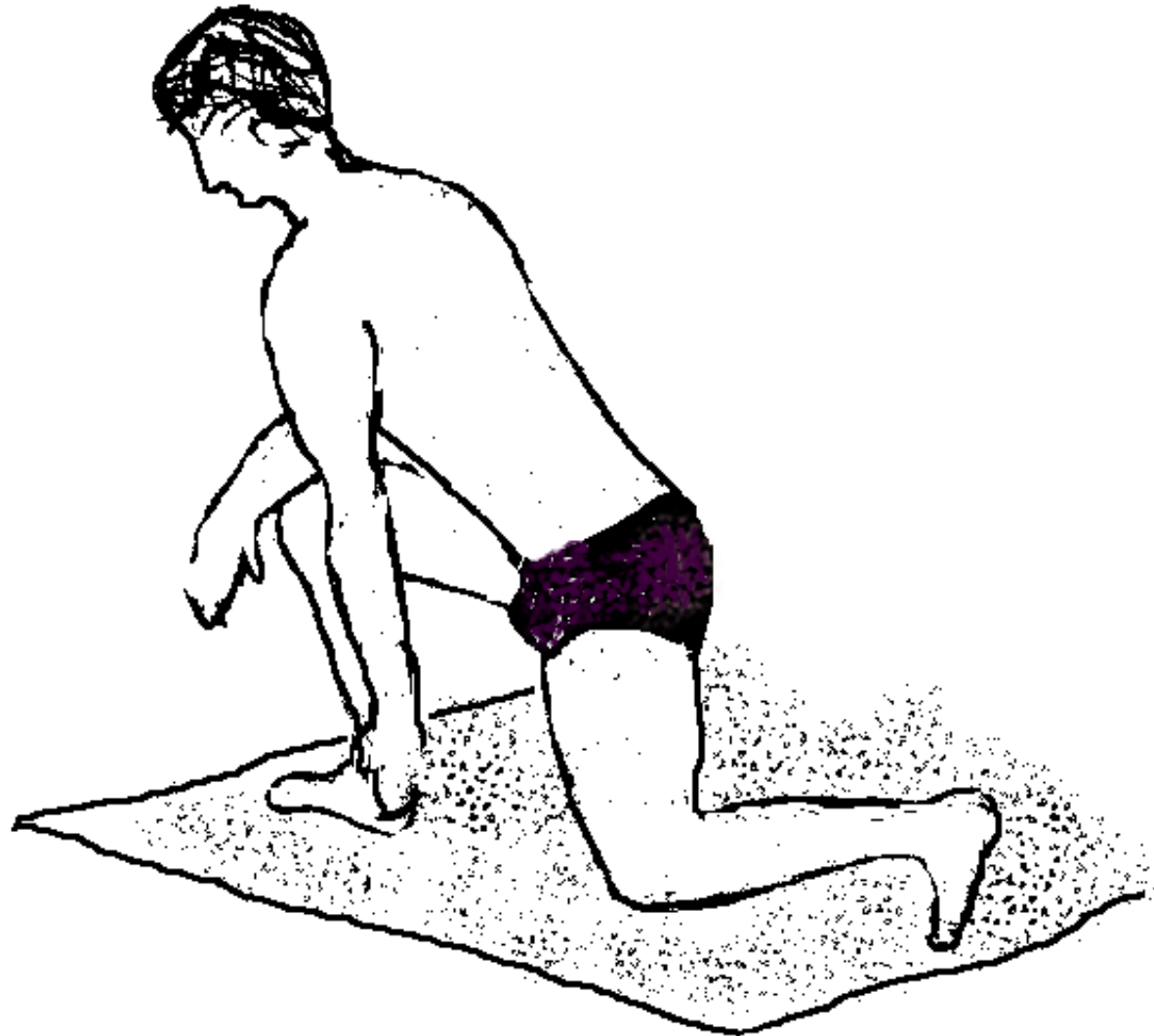
# Accroupi



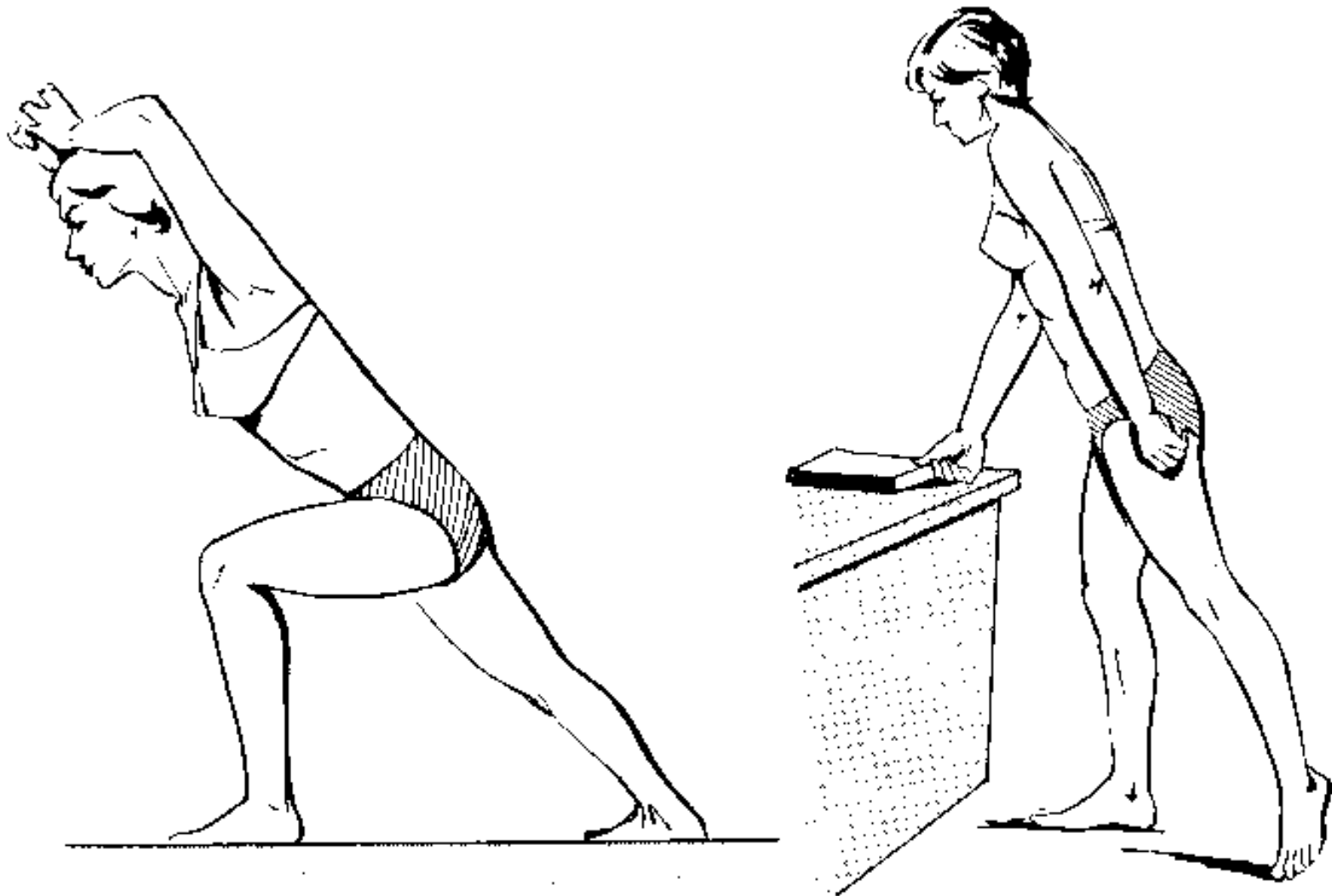
# Balancier



# Chevalier servant



# Fente avant



# Fentes arrière et latérale

