Muscles

- Musculus rectus abdominis (Las)

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Preview:
simple/clean drawings; lots of additional info (+latin names)

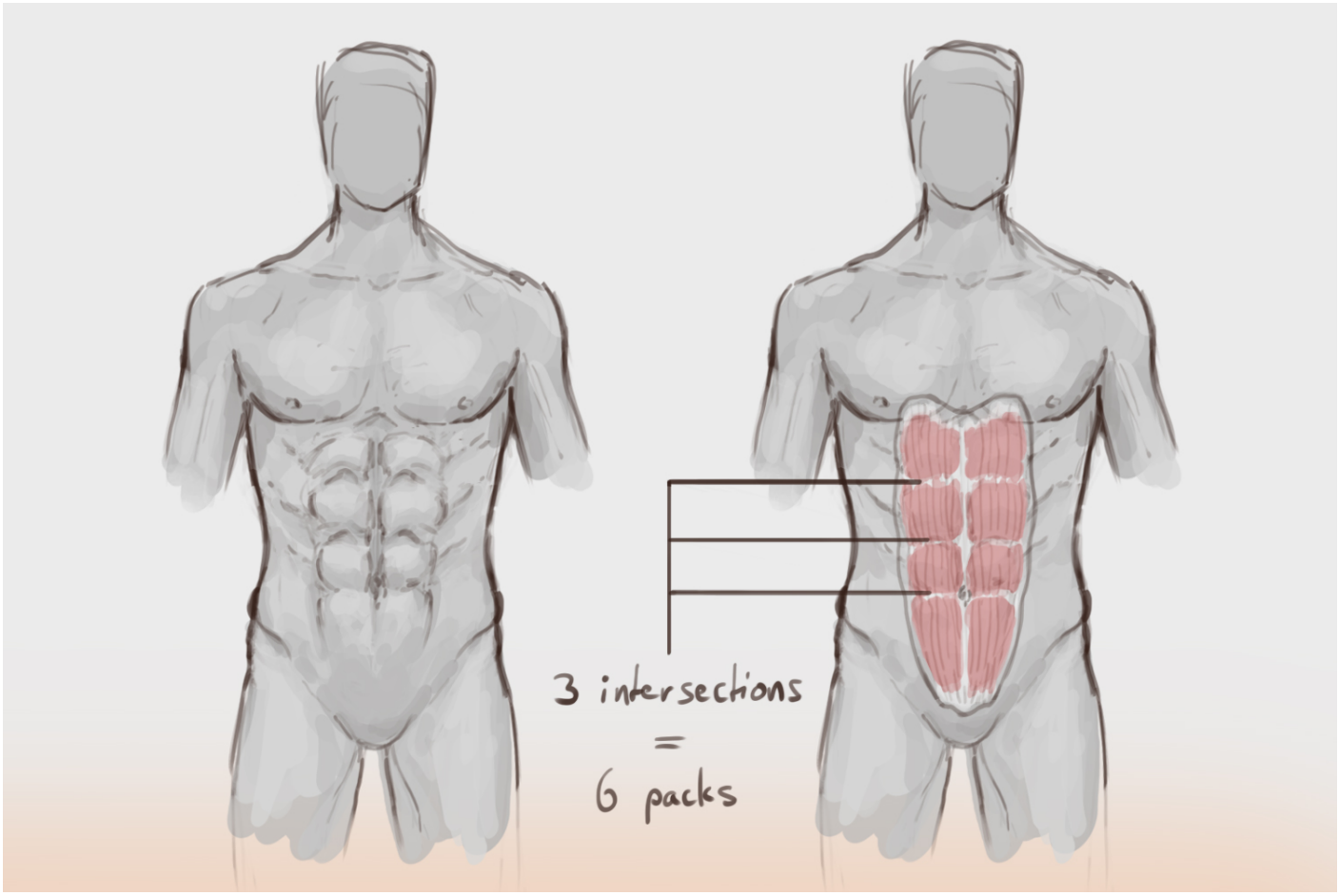
Synonyms: abs; rectus abdominis muscle; straight abdominis muscle; six pack; six-pack; sixpack; rectus

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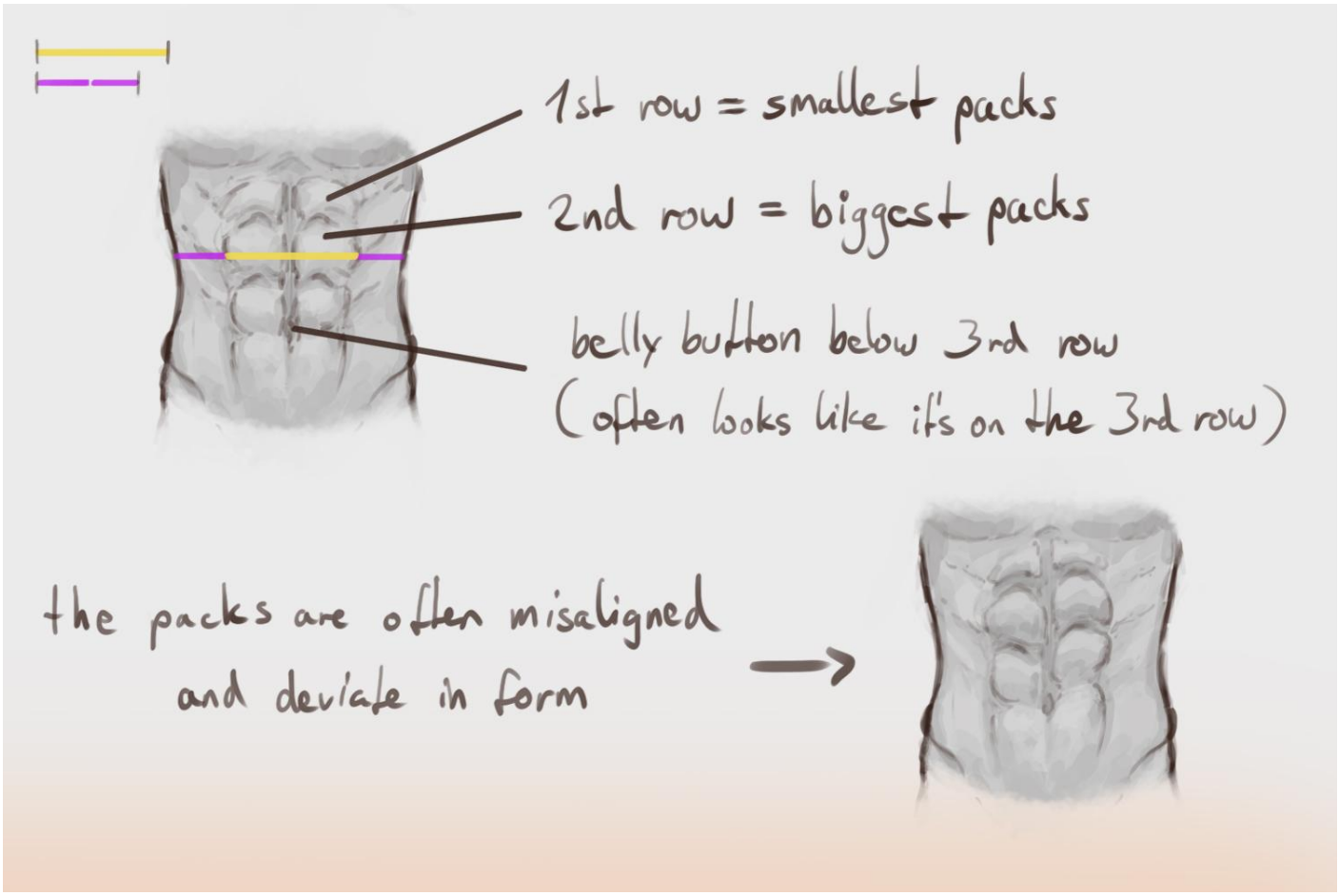
Summary

The *Musculus rectus abdominis*, often referred to as "**abs**" (short for "abdominal muscles"), sits in front of your stomach and is visible on trained and **low body fat** people. In fact, there are two individual muscle cords right next to each other (that's why I'll refer to them in plural). Besides being used for **breathing** the muscles also **bend the torso and lift the pelvis forward** - thus the abs are the main antagonist of the back extensor muscles (*M. erector spinae*). There are **tendons that separate the long muscle cords into packs** for better muscle contraction precision.

Basics



general placement of the M. rectus abdominis



some "good to know" things; the size relations are more important than you think

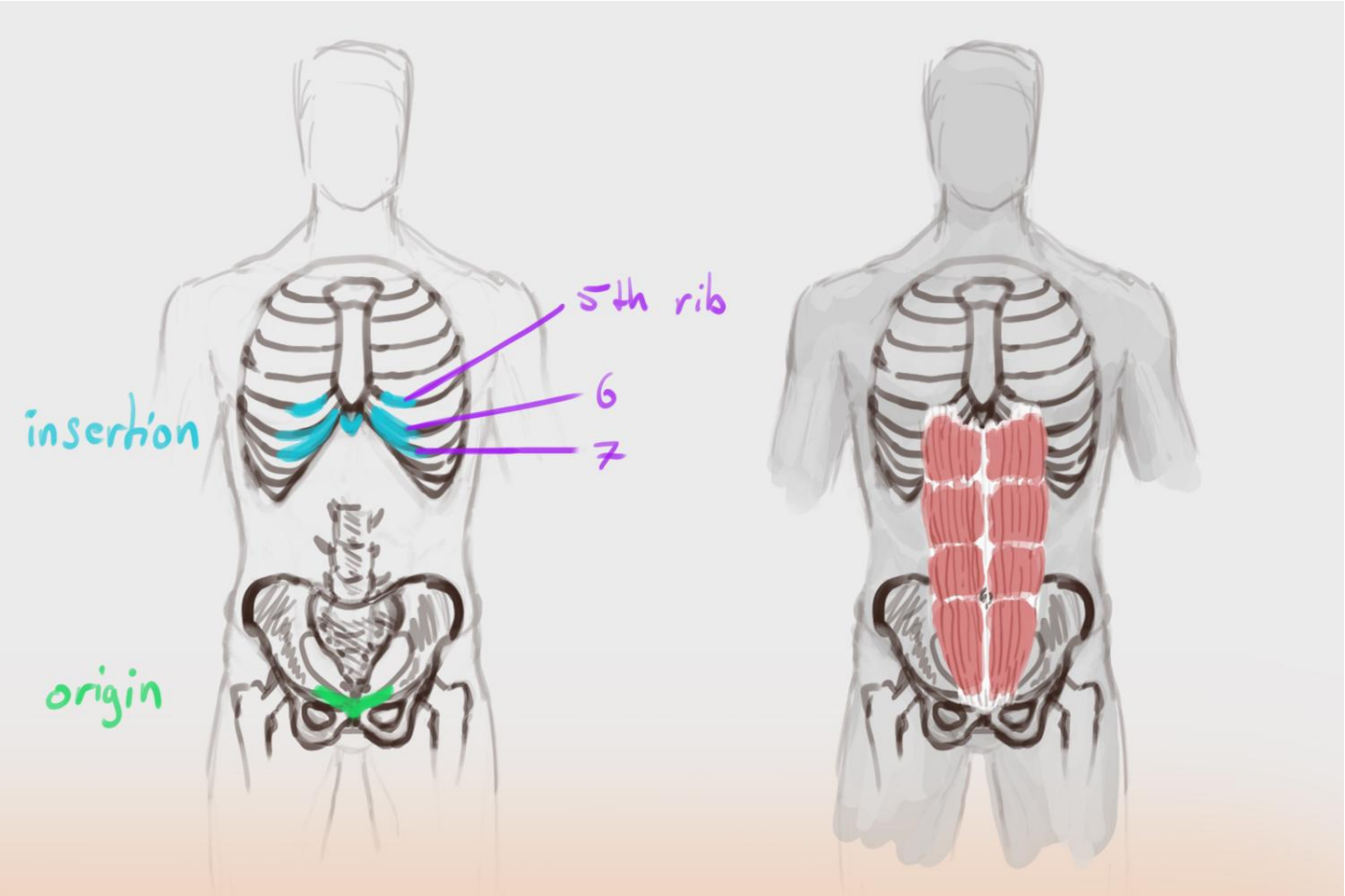
You can read more about "8 packs" in the advanced section below.
The 1st row of packs deviates on almost every human being. In general this means, if you draw perfectly aligned abs, they will look less natural.

Origin

- Pubic bone (*Os pubis*), more specifically on the **superior pubic ramus** (*Ramus superior*; ramus = branch)
- **Pubic symphysis** (*Symphysis pubica*), thats the cartilage between the two pubic bones

Insertion

- Cartilage of the **5th, 6th and 7th rib** (there is cartilage at the front tip of each rib)
- Some muscle fibers connect to the **breastbone (*Sternum*)**

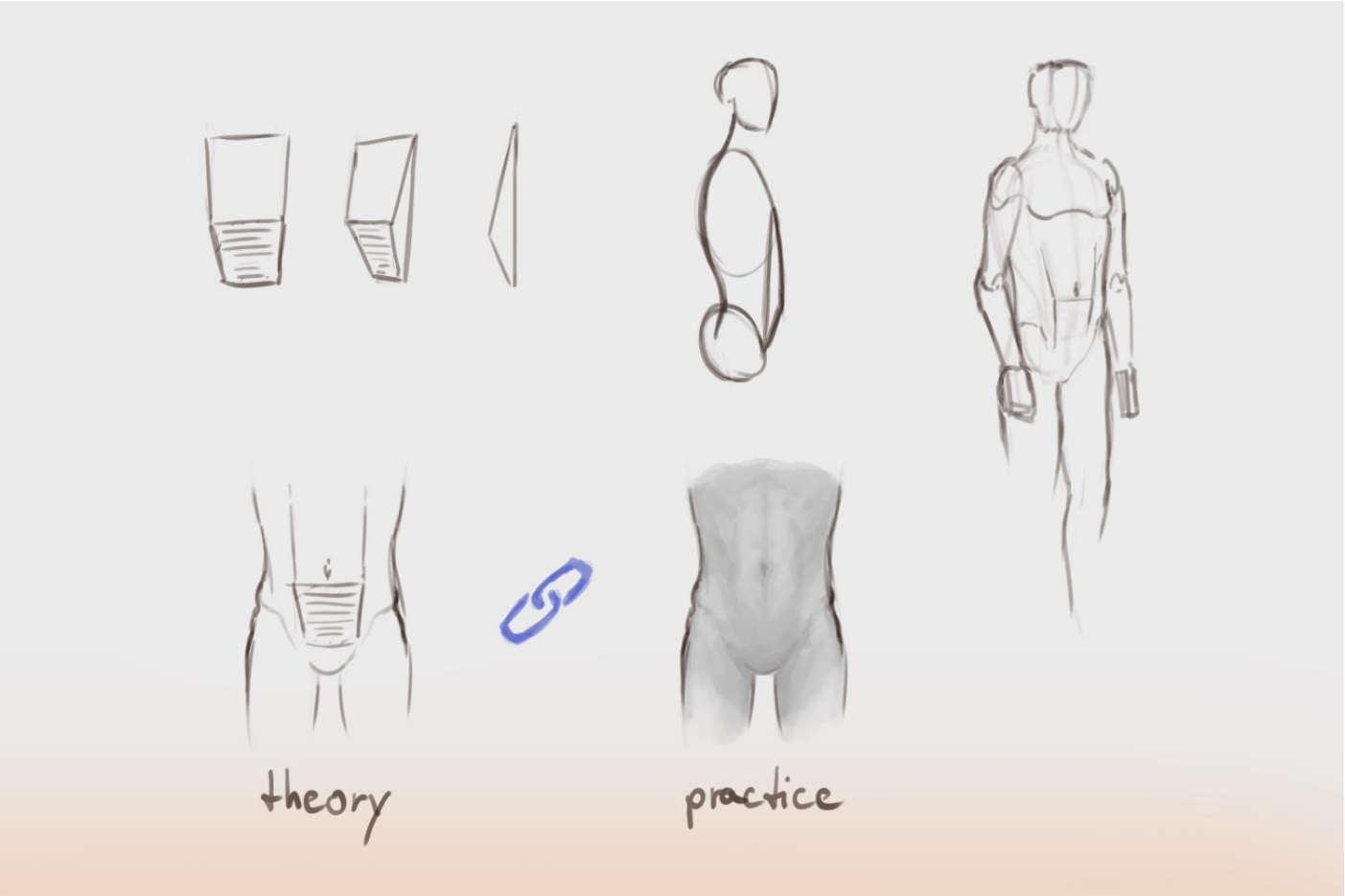


origin and insertion; some sources do it the other way round, but it doesn't really matter

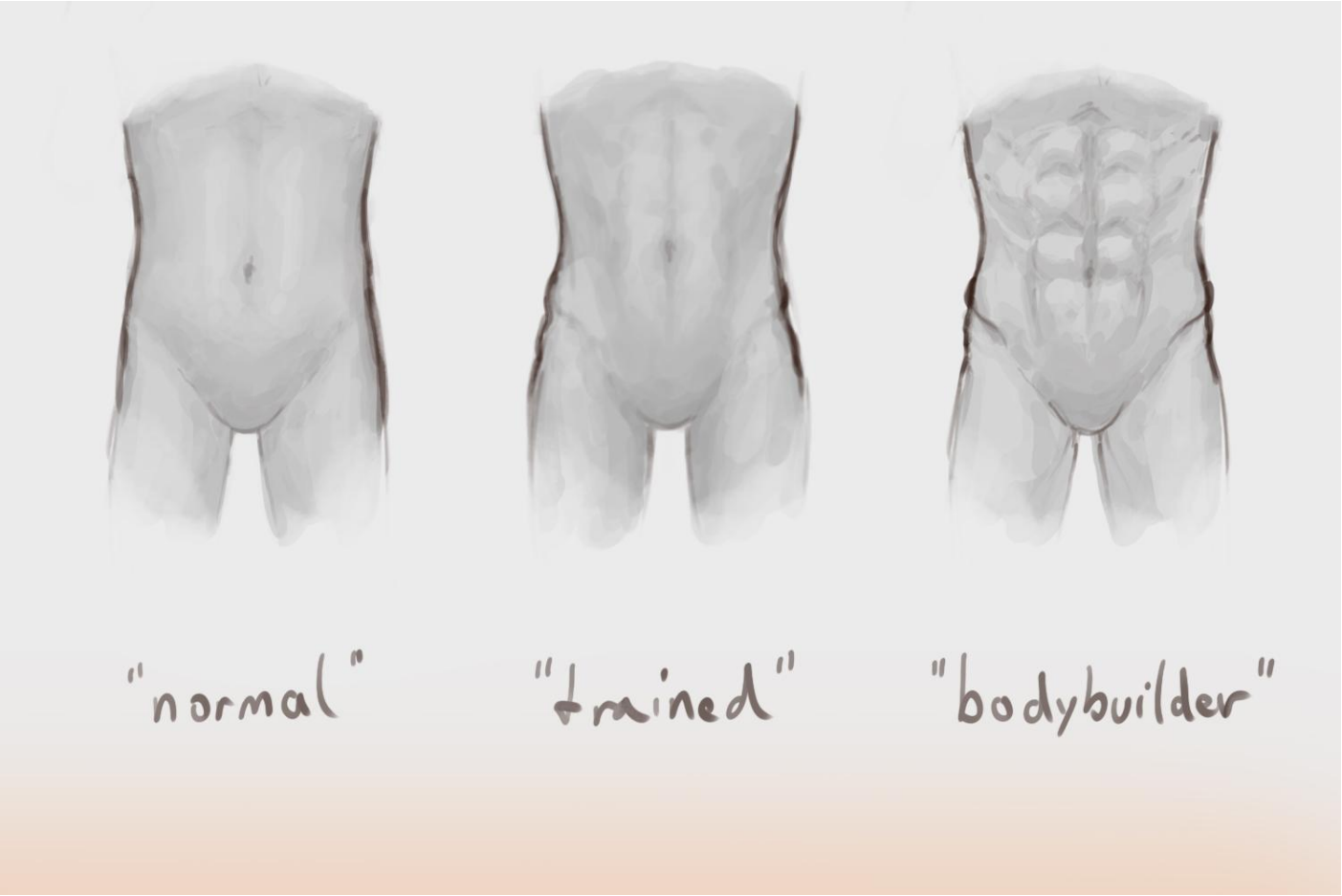
Functions

- Bending and crunching the torso forward; the familiar **"sit up" motion** represents this function pretty well
- **Lifting/twisting the pelvis forward**
- Breathing control; the abs are used mainly for **exhaling**

How to draw the muscle



this shape helps you drawing the abs; it's a little more emphasized on female bodies

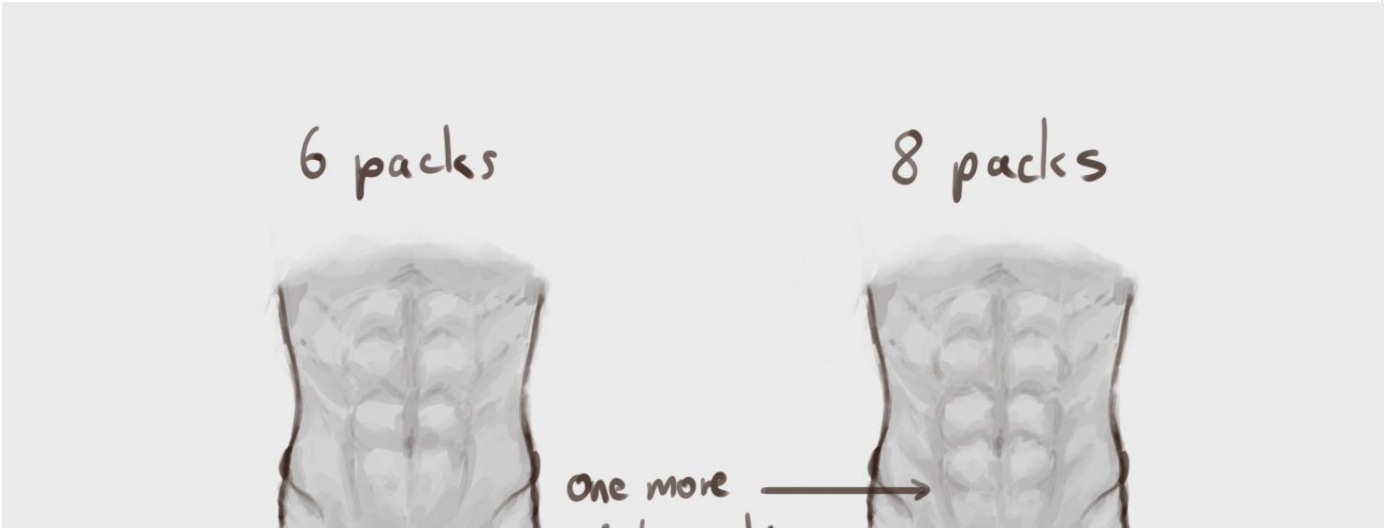


the two main factors are training and body fat percentage; note that women naturally have more subcutaneous fat

Advanced

Everything beyond the basics

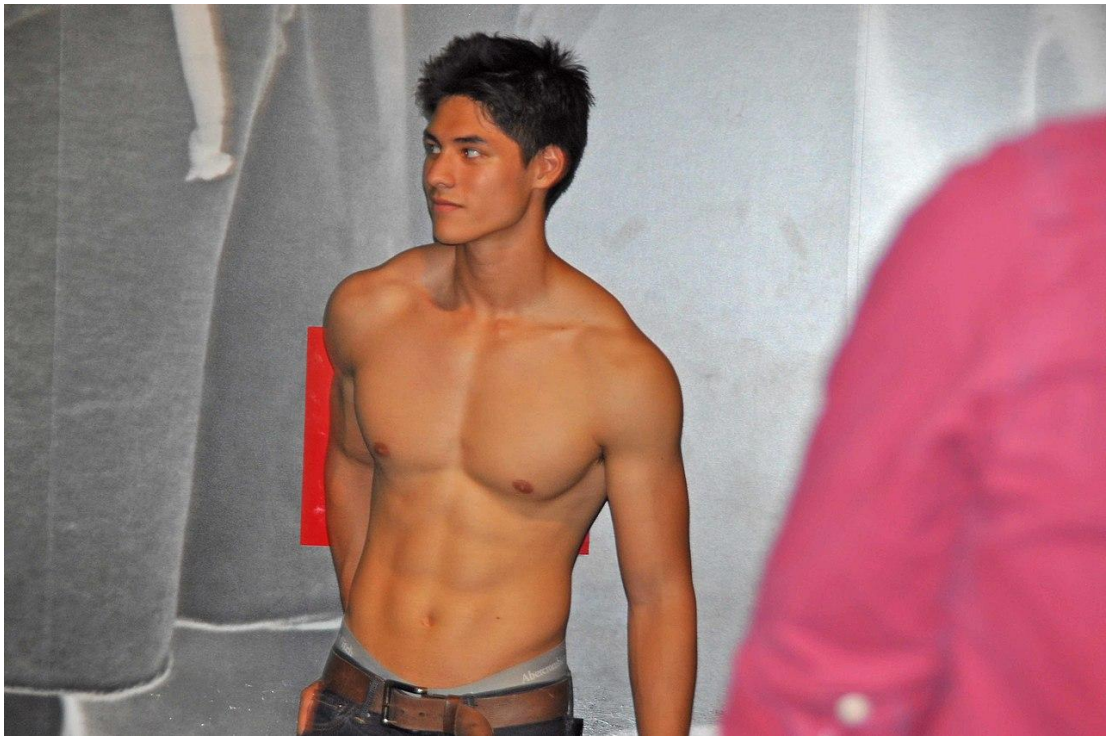
The **tendinous intersections** (*Intersectiones tendineae*) determine how many packs you can have. **Most people (around 60%)** have 3 intersections which equals to **6 possible packs**. In some media you see people with 8 packs to empathize their strength. The visual effect works, but in reality more packs don't make you stronger. Only around **20% even have 4 intersections = 8 possible packs**, which means its based on luck (genetics) if you are even able to develop an 8 pack. Chances for 2, 4 or 10 packs are even lower than 20%.



a side by side view for 6 and 8 packs; 10 packs just means that there is another intersection below that

Reference Pictures (for study only)

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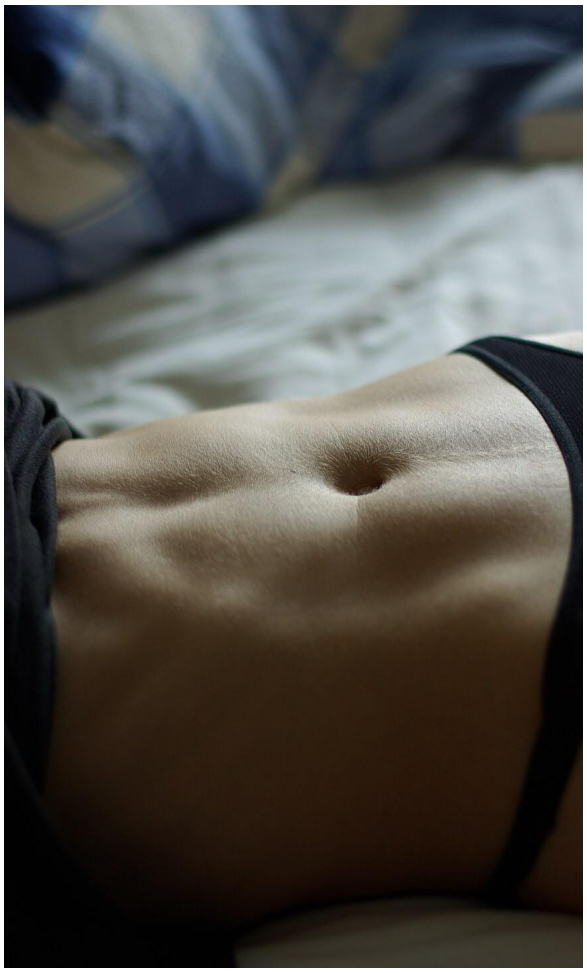
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