

# Muscles

- [Musculus rectus abdominis \(xlas\)](#)

# Musculus rectus abdominis (xlas)

## Preview:

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

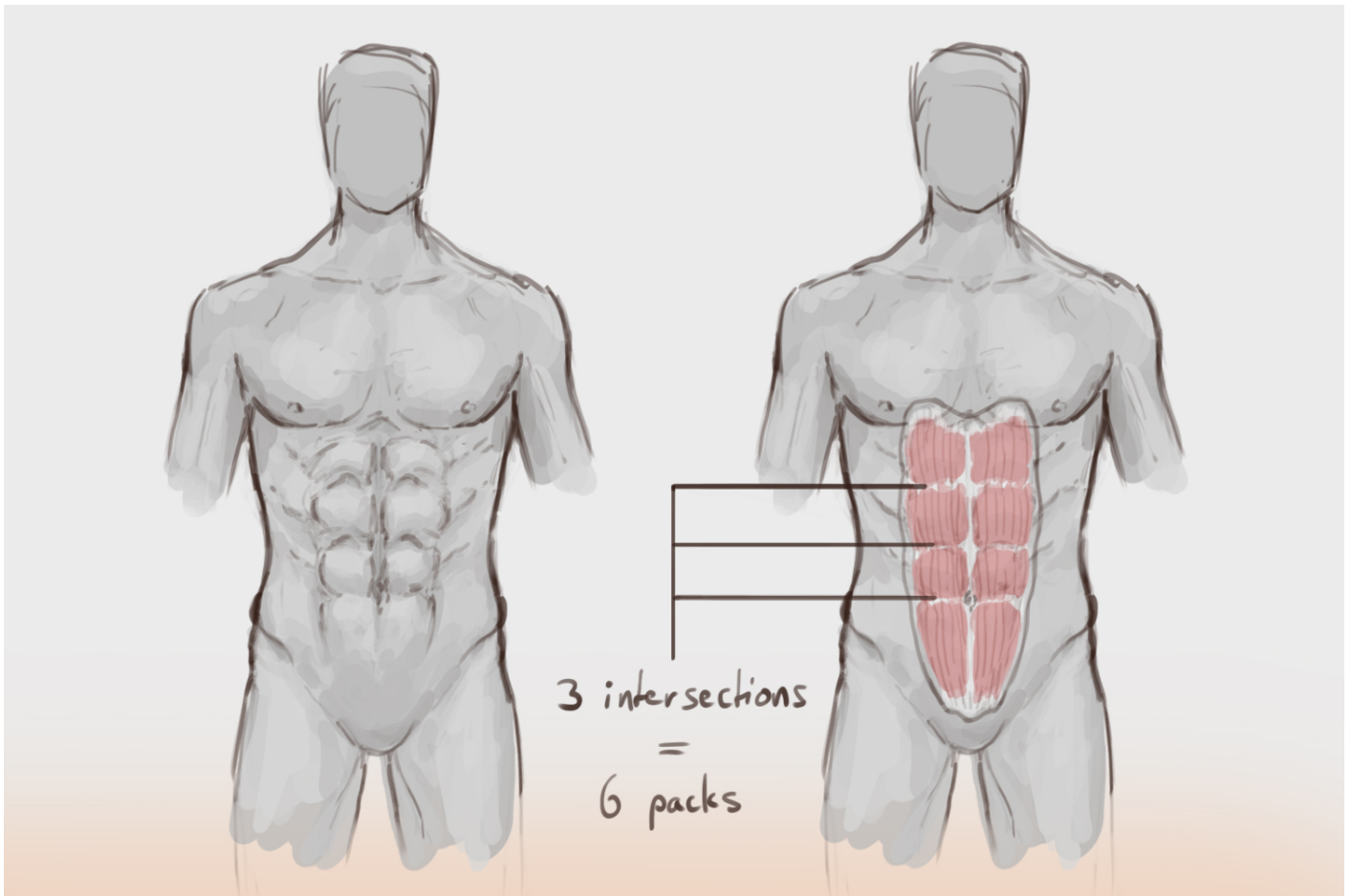
*Synonyms: abs; rectus abdominis muscle; straight abdominis muscle; six pack; six-pack; sixpack; rectus*

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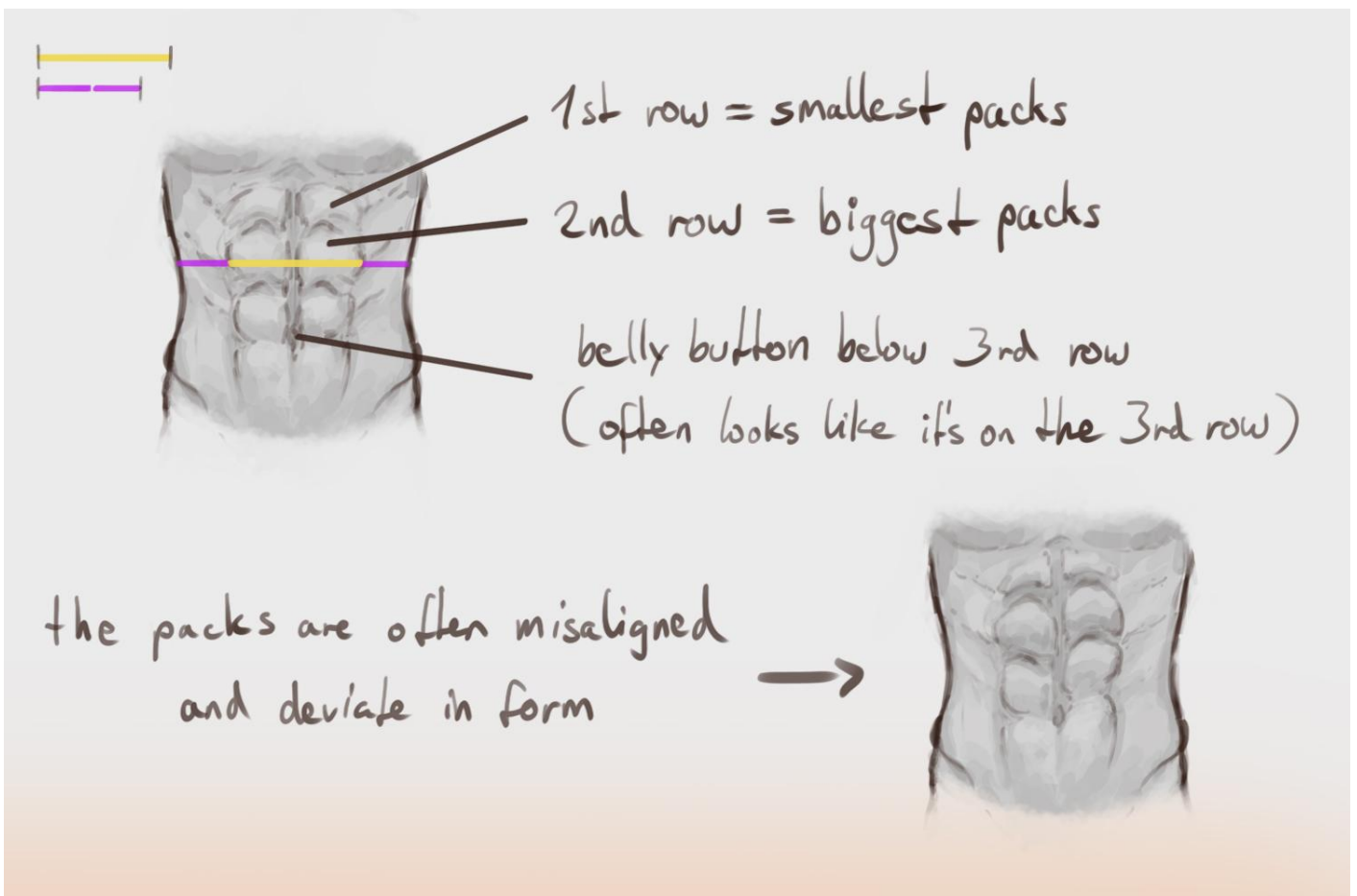
## Summary

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.

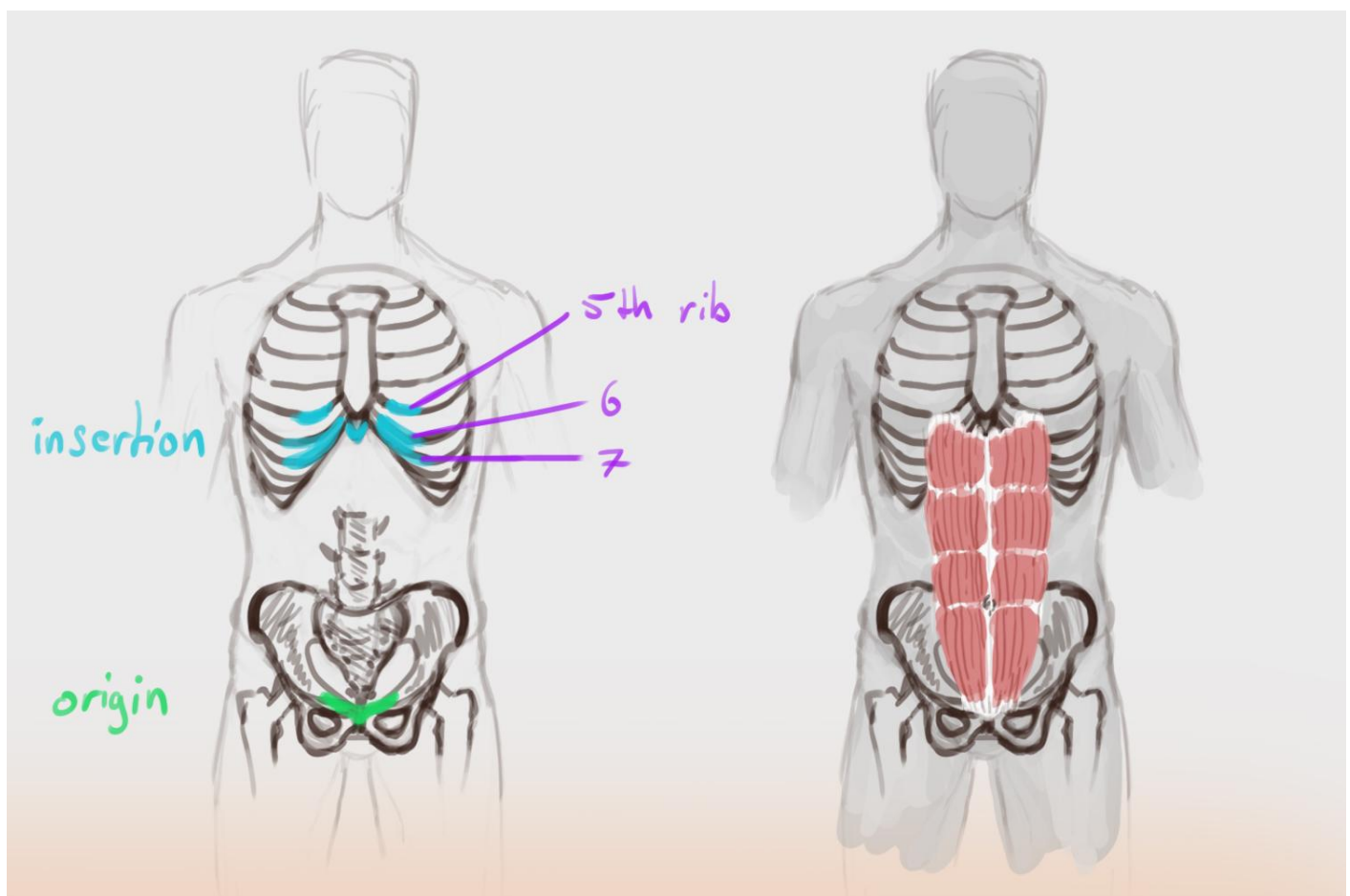
The 1st row of packs deviates on almost every human being. In general this means, if you draw perfectly aligned abs, they will look less natural.

## Origin

- Pubic bone (*Os pubis*), more specifically on the **superior pubic ramus** (*Ramus superior*; ramus = branch)
- **Pubic symphysis** (*Symphysis pubica*), that's 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)**

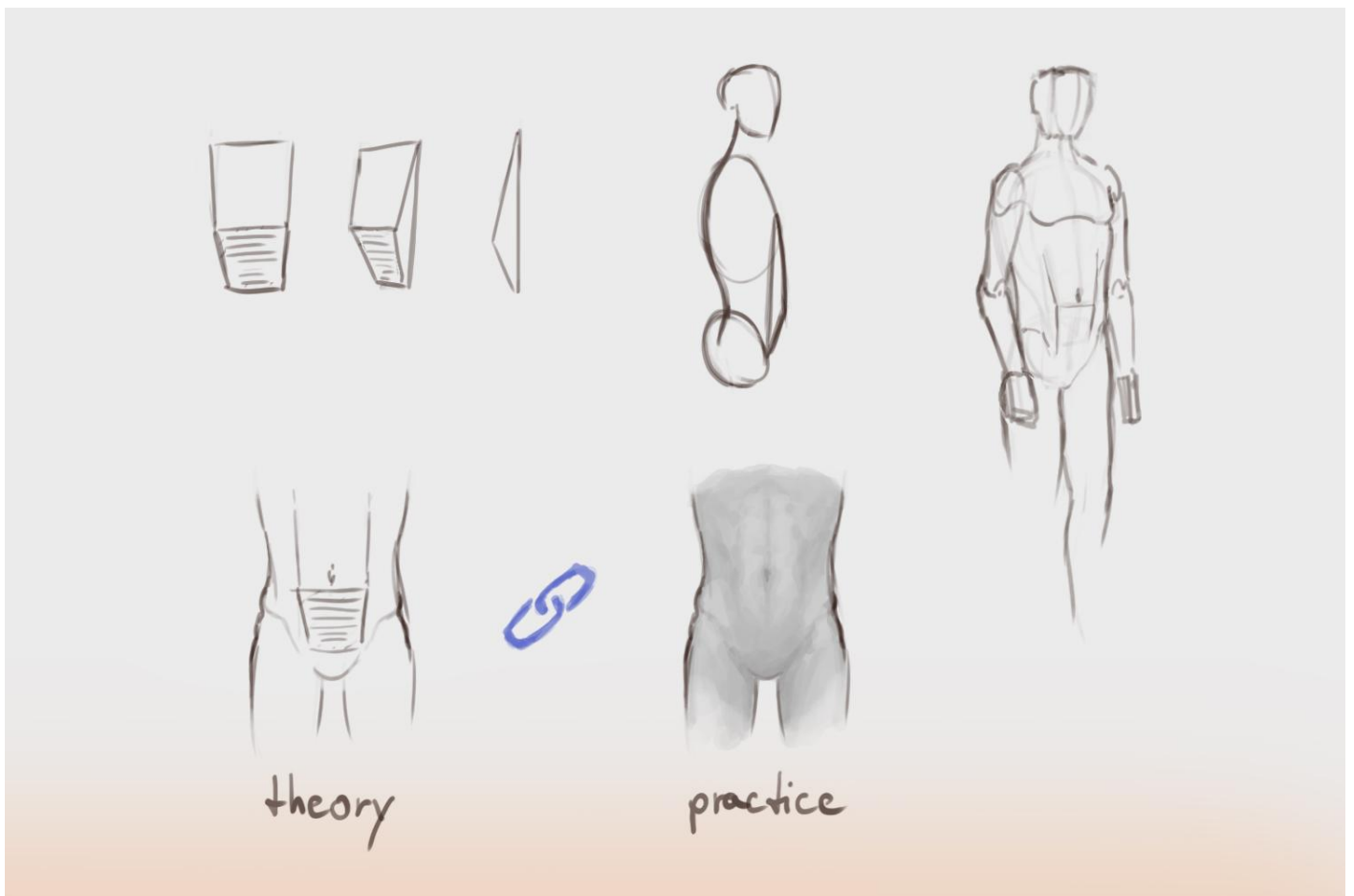


origin and insertion; some sources do it the other way round, but it doesn't really matter

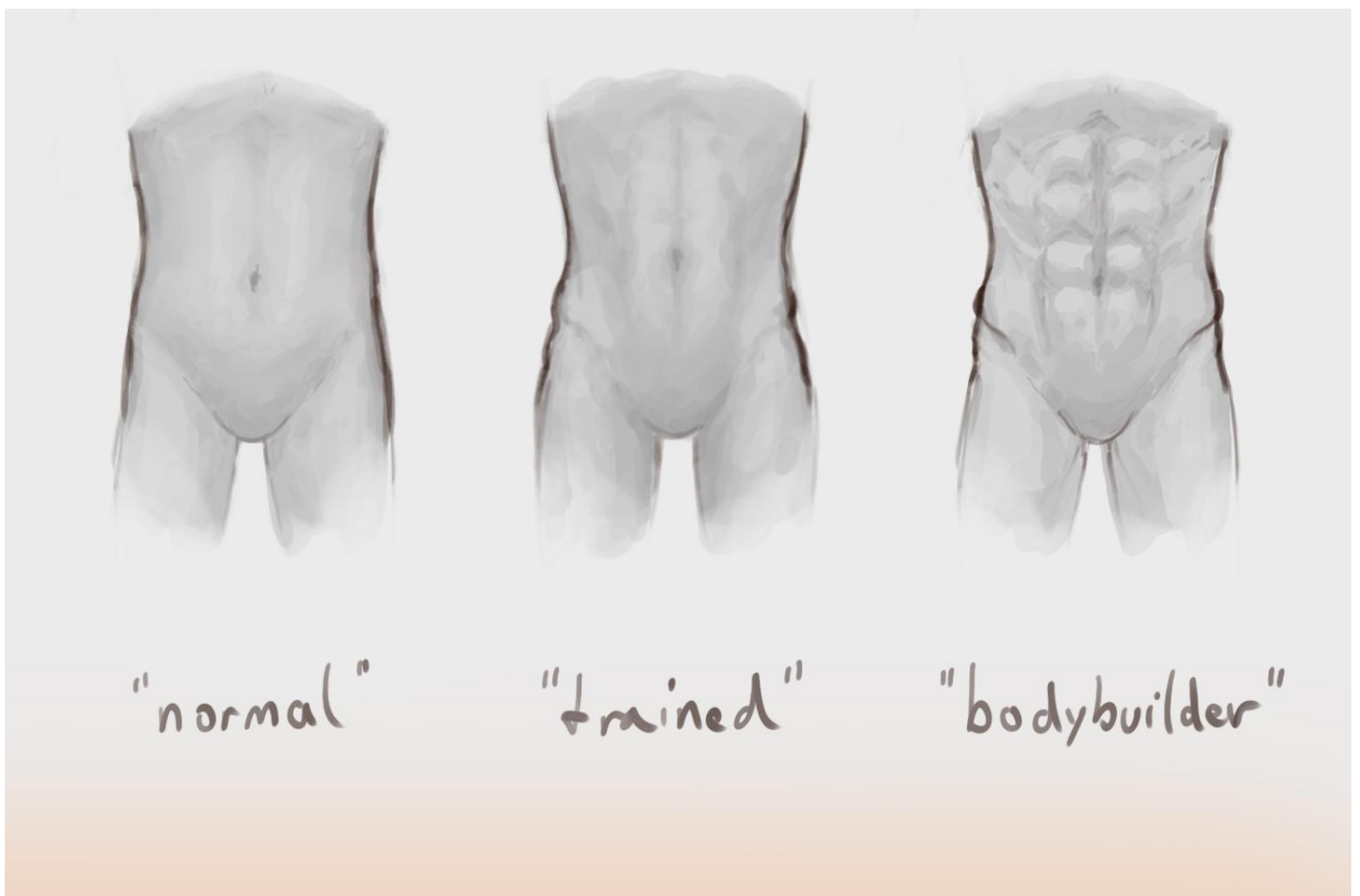
## Functions

- 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*

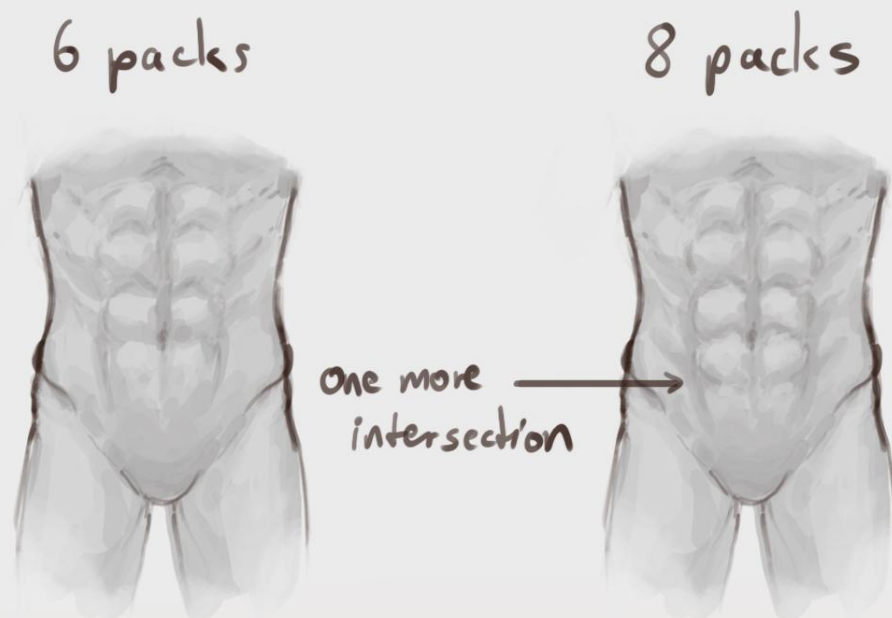


*the two main factors are training and body fat percentage; note that women naturally have more*

# Advanced

## Everything beyond the basics

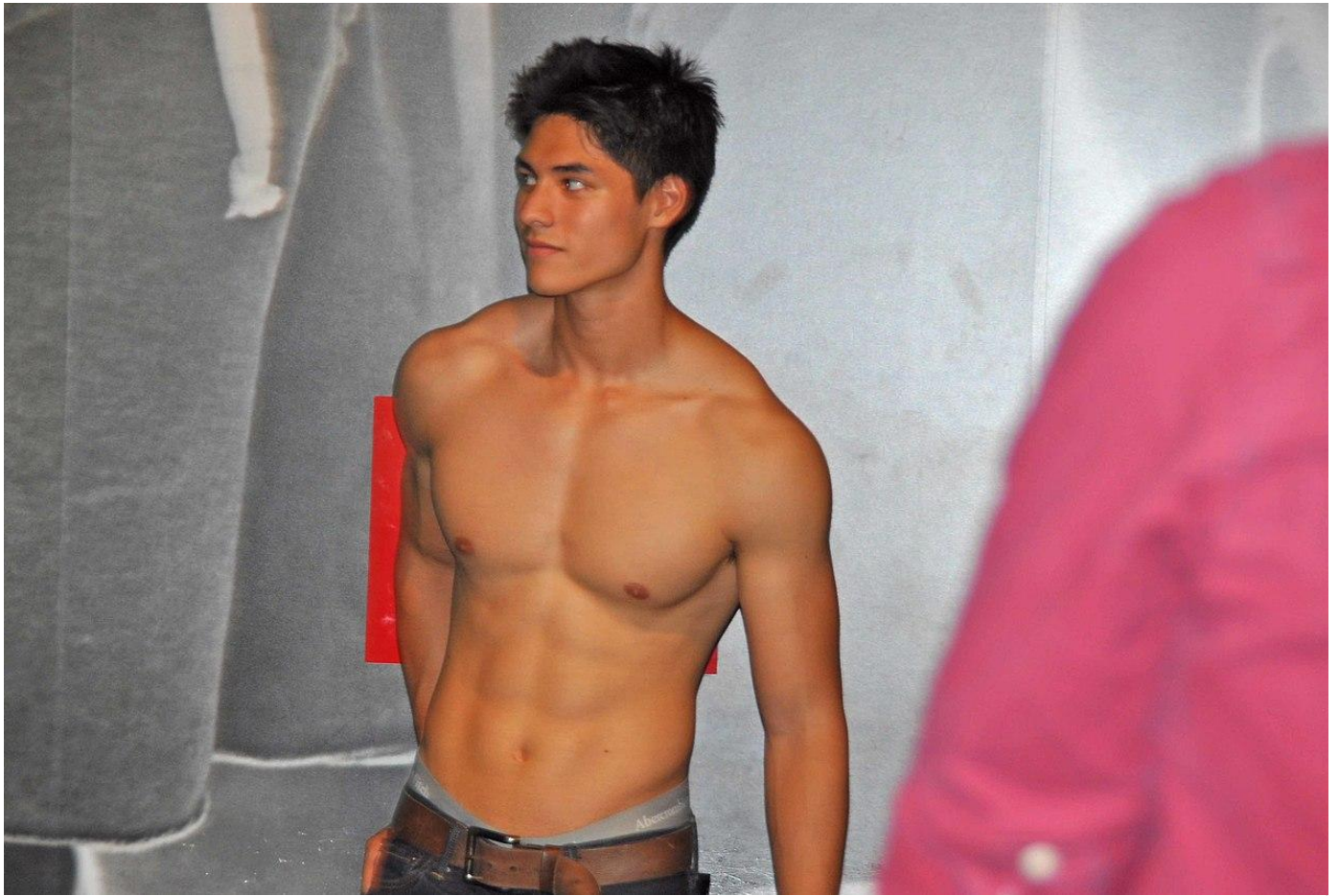
The **tendinous intersections** (*Intersectiones tendineae*) determine how many packs you can have. **Most people (around 60%)** have 3 intersections which equals to **6 possible packs**. In some media you see people with 8 packs to empathize their strength. The visual effect works, but in reality more 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)

From Wikimedia, Pixabay, Unsplash



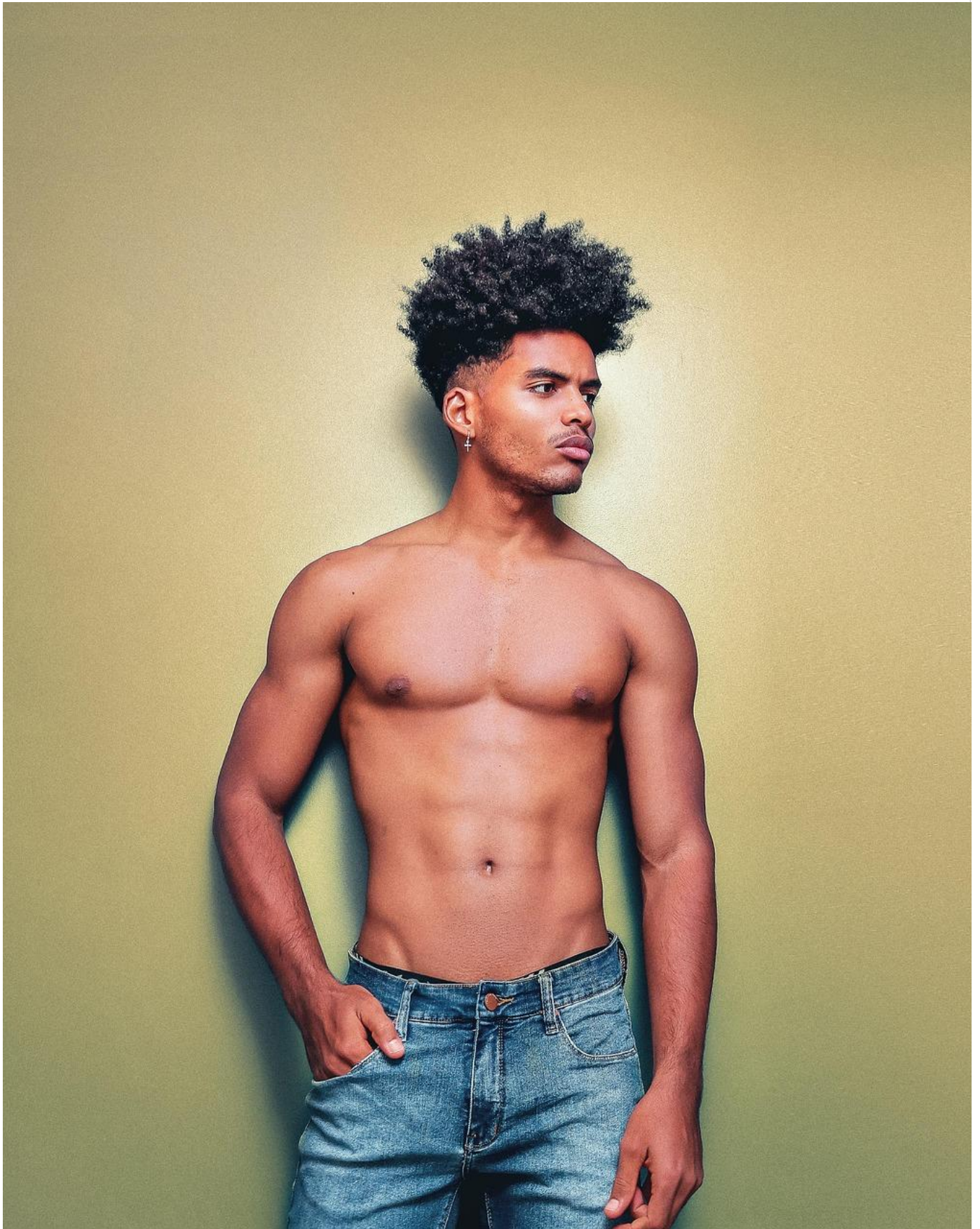
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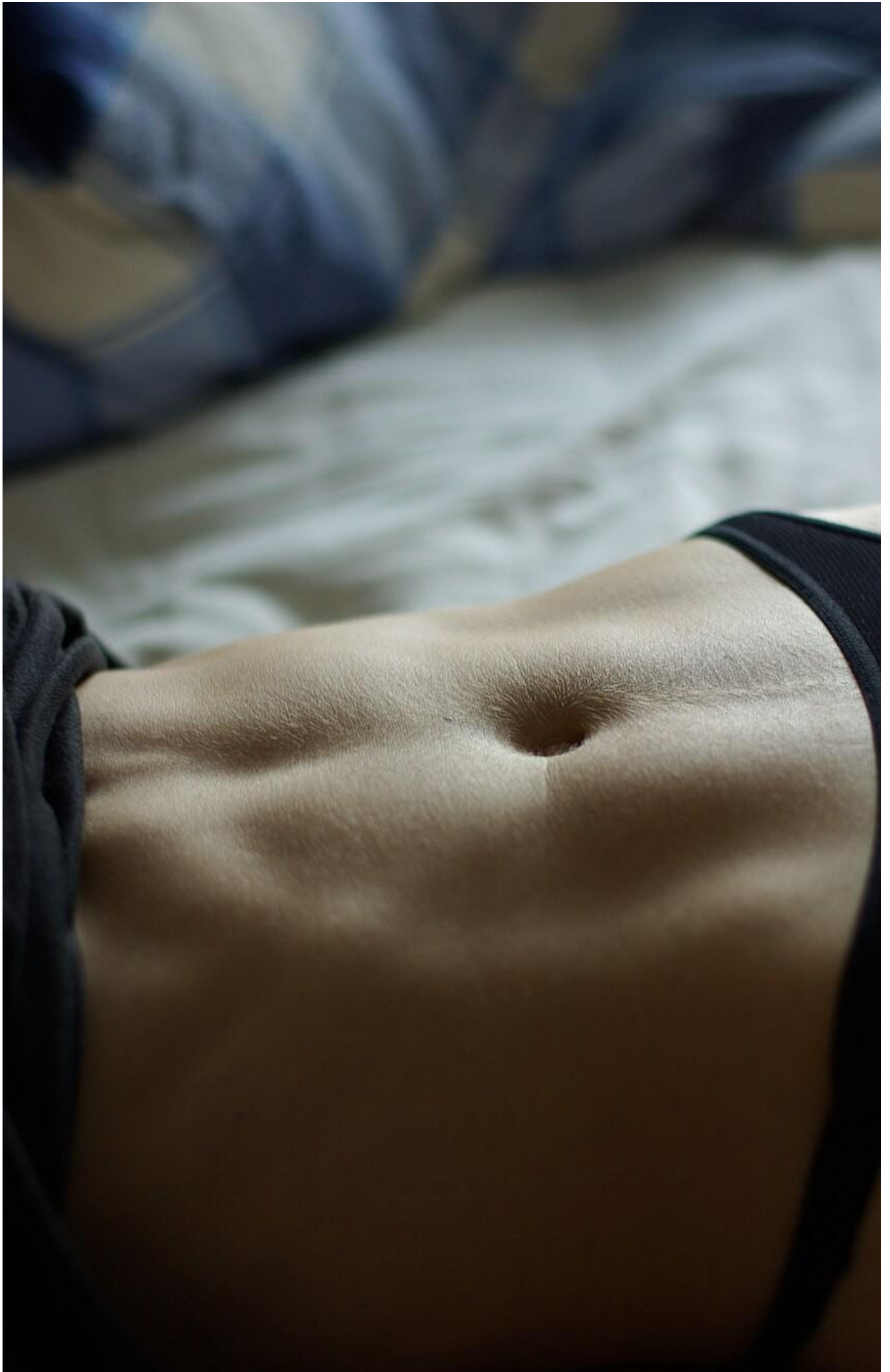
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