

The success of Yoga does not lie in
the ability to perform postures but
in how it positively changes the way
we live our life and our
relationships.

— T. K. V. Desikachar —



"The
School of
Athens"
1509–1511

fresco by
Raphael

Vatican
City,
Rome



It is generally agreed that their gestures indicate central aspects of their philosophies: for Plato, his Theory of Forms, and for Aristotle, an emphasis on concrete particulars.

Many interpret the painting to show a divergence of the two philosophical schools.

Plato argues a sense of timelessness while Aristotle looks into the physicality of life and the visible world.

PRANA APANA NYASA

Om namo pranayá

Pranaya nama om

Pranaya swahä

Om namo apanayá

Apanaya nama om

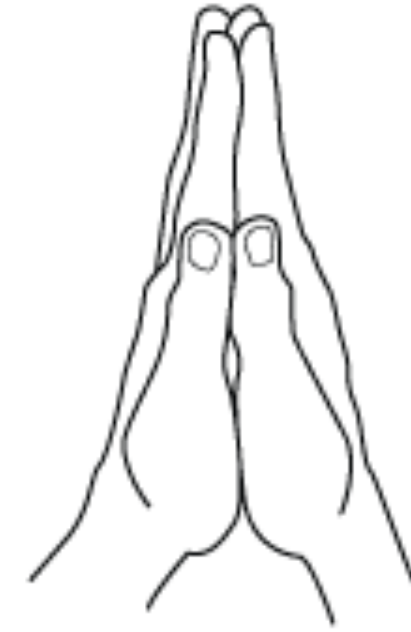
Apanaya swahä

Om swahä

Haríh om



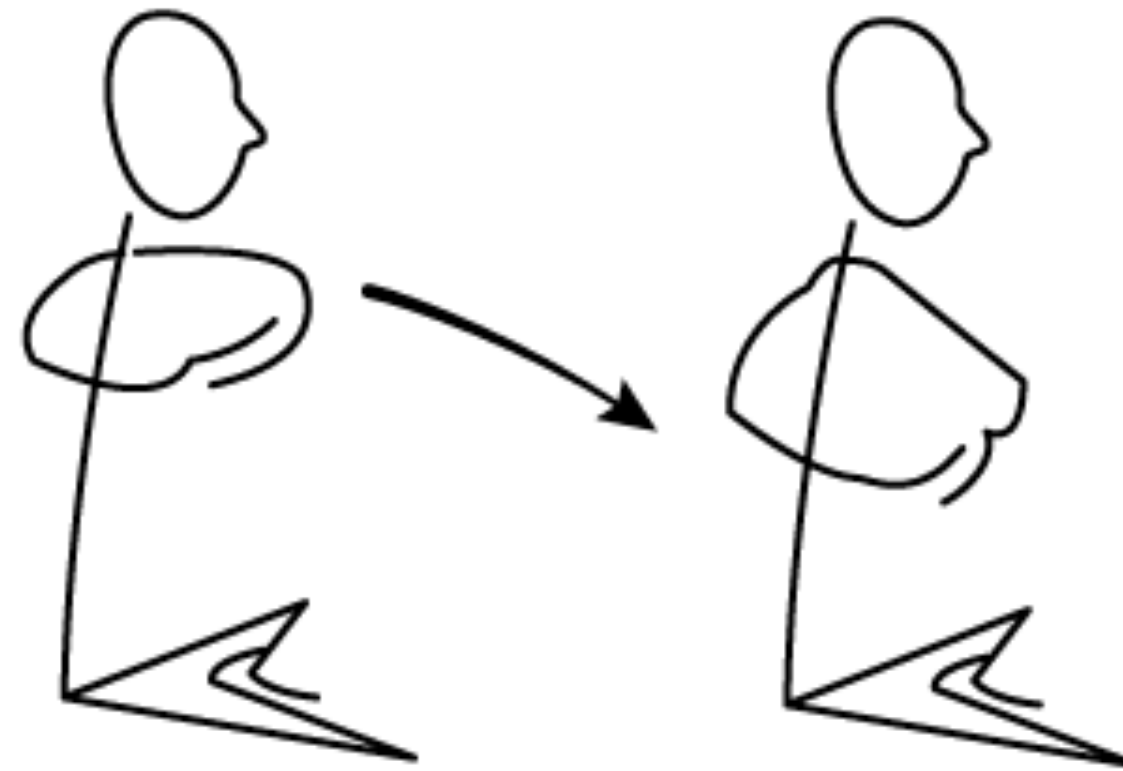
Om



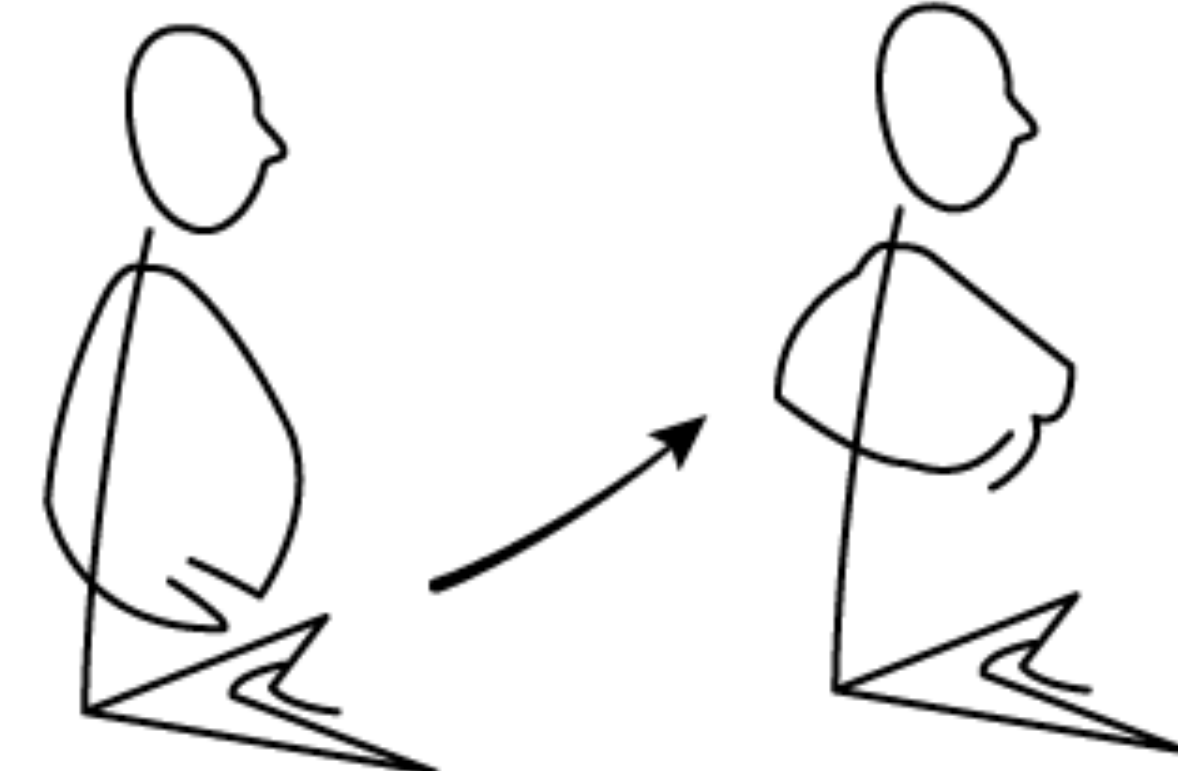
Namó



Pranaya/Apanaya



Pranaya swaha



Apanaya swaha

Krishnamacharya in Mulabandhasana



“Prana apana samayogah pranayamah iti iritah”

Pranayama is the balanced joining of the in-breath and the out-breath

Yoga Yajnavalkya 6:2



Prana logo by Leslie Kaminoff based on photo of
T. Krishnamacharya from “The Heart of Yoga”



Bhagavad Gita 4:29

appox 500 - 200 BCE

*apane juhvati pranam
prane 'panam tathapare
pranapana-gati ruddhva
pranayama-parayanah*

*...There are others who
sacrifice the outgoing
breath in the incoming,
and the incoming in the
outgoing, restraining the
courses of the outgoing
and the incoming
breaths...*



- apāne — in the air which acts downward
- juhvati — offer; prāṇam; sacrifice
- prāṇe — in the air going outward
- apānam — the air going downward
- tathā — as also
- apare — others
- prāṇa — of the air going outward
- apāna — and the air going downward
- gatī — the movement
- ruddhvā — checking
- prāṇa-āyāma — trance induced by stopping all breathing
- parāyaṇāḥ — so inclined

As the text indicates, the inhaled breath must be brought to meet with the exhaled breath. Krishnamacharya stipulates how to correctly use the thoracic, dorsal and diaphragm musculature in the work of inhalation in order to feel it as a movement descending towards the epigastric region. Likewise for exhalation, the Professor explains how to employ the abdominals with a view to instigating the sensation of an ascending movement towards the epigastric region.

Beginning from these principles, all the technology of pranayama is designed, ordered, justified, and acquires its coherence. In this perfect edifice, the bandhas naturally find their place in serving the union of the prana and apana vayus. The famous notion of kundali is similarly clarified. The coiled serpent sleeping at the entrance to the path of liberation (middle path or shushumna nadi) symbolizes the inertia of the mind troubled by ignorance (avidya).

excepted from "Teachings" by Claude Marechal



Bhagavad Gita 4:29

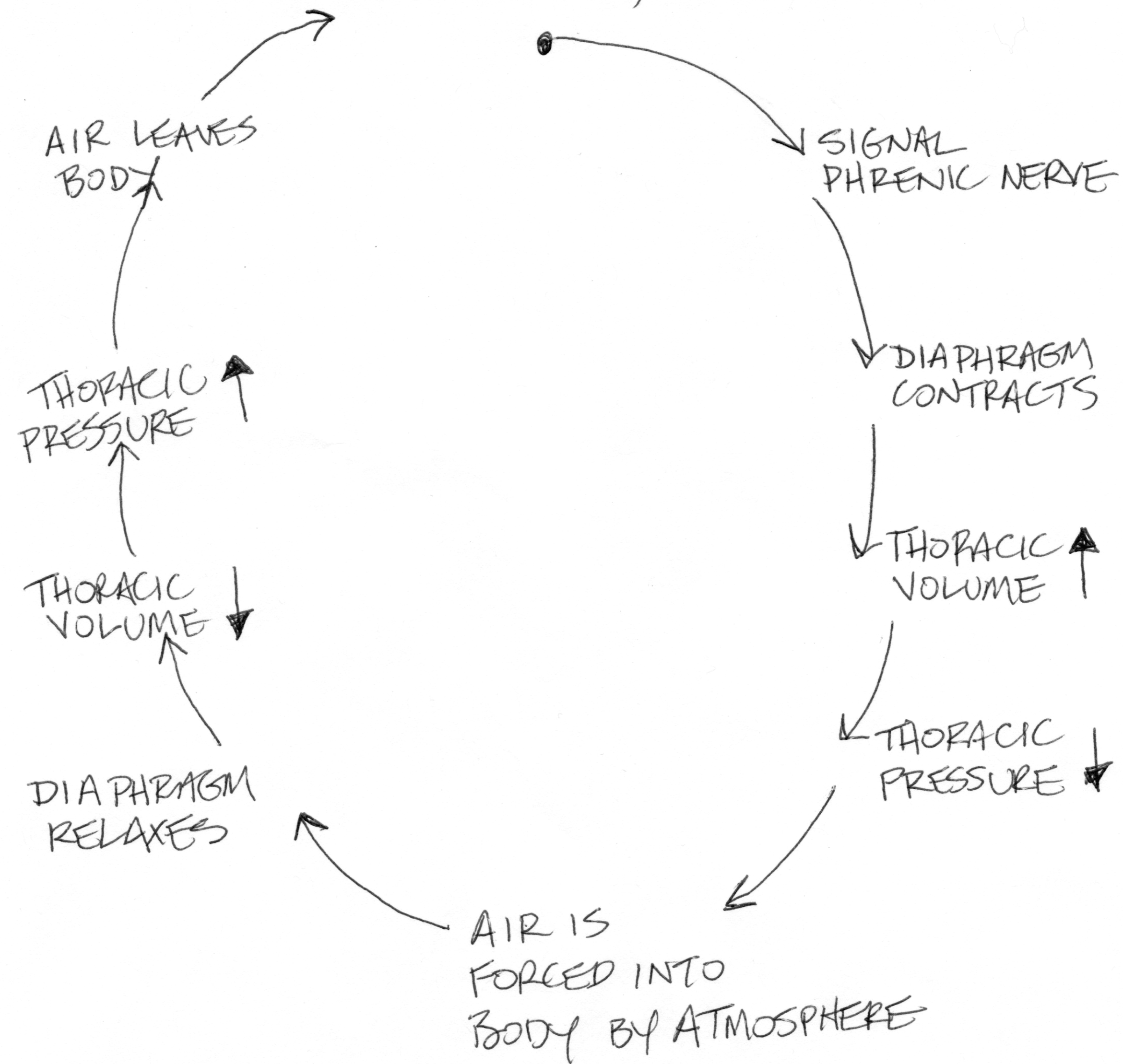
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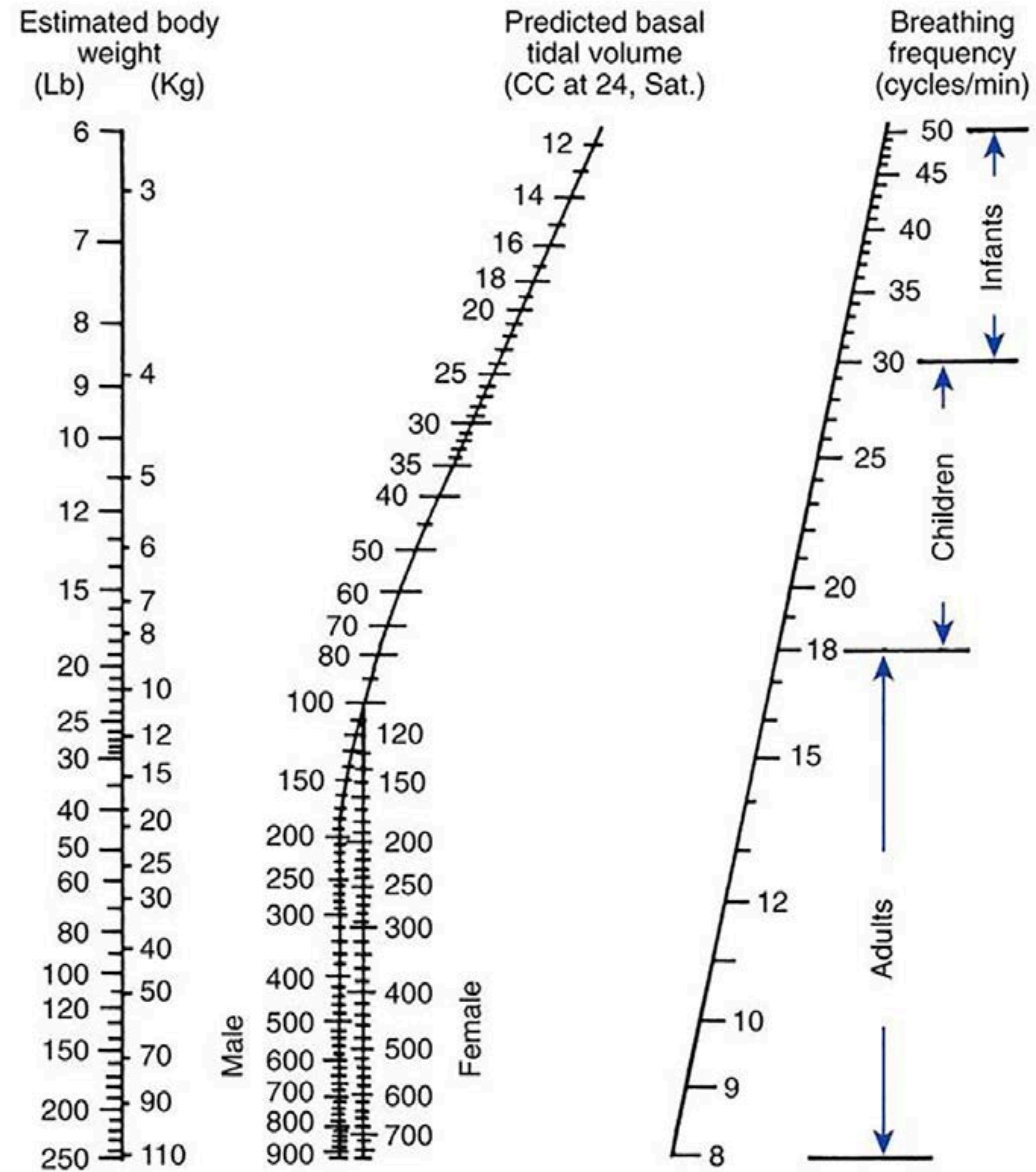
CO₂ RECEPTORS
IN BRAIN (medulla oblongata)
and CAROTID, AORTIC BODIES



SIMPLIFIED
CAUSAL CHAIN OF BREATHING



Radford Breathing Nomogram

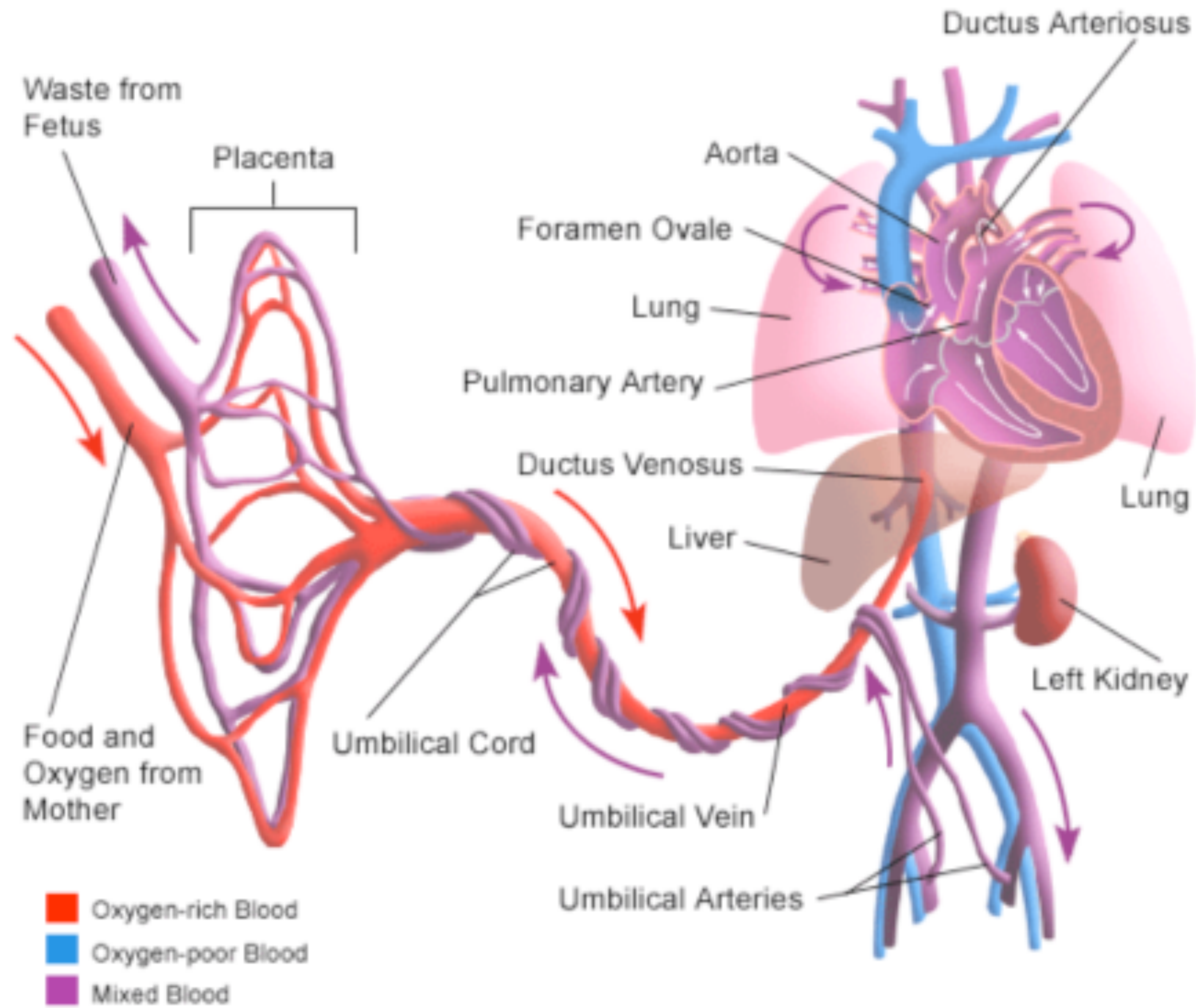


Why infants are bad breathing models

Cause	Physiological or anatomical basis
Metabolism ↑	O ₂ consumption ↑
Risk of apnoea ↑	Immaturity of control of breathing
Airway resistance ↑	Nose breathing
Upper airway resistance ↑	Large tongue
	Airway size ↓
	Collapsibility ↑
	Pharyngeal muscle tone ↓
	Compliance of upper airway structures ↑
Lower airway resistance ↑	Airway size ↓
	Collapsibility ↑
	Airway wall compliance ↑
	Elastic recoil ↓
Lung volume ↓	Numbers of alveoli ↓
	Lack of collateral ventilation
Efficiency of respiratory muscles ↓	Efficiency of diaphragm ↓
	Rib cage compliance ↑
	Horizontal insertion at the rib cage
	Efficiency of intercostal muscles ↓
	Horizontal ribs
Endurance of respiratory muscles ↓	Respiratory rate ↑
	Fatigue-resistant type I muscle fibres ↓

Physiological reasons for the increased susceptibility of infants
for respiratory compromise in comparison to adults

Fetal Circulation (detail)



Fetal circulation

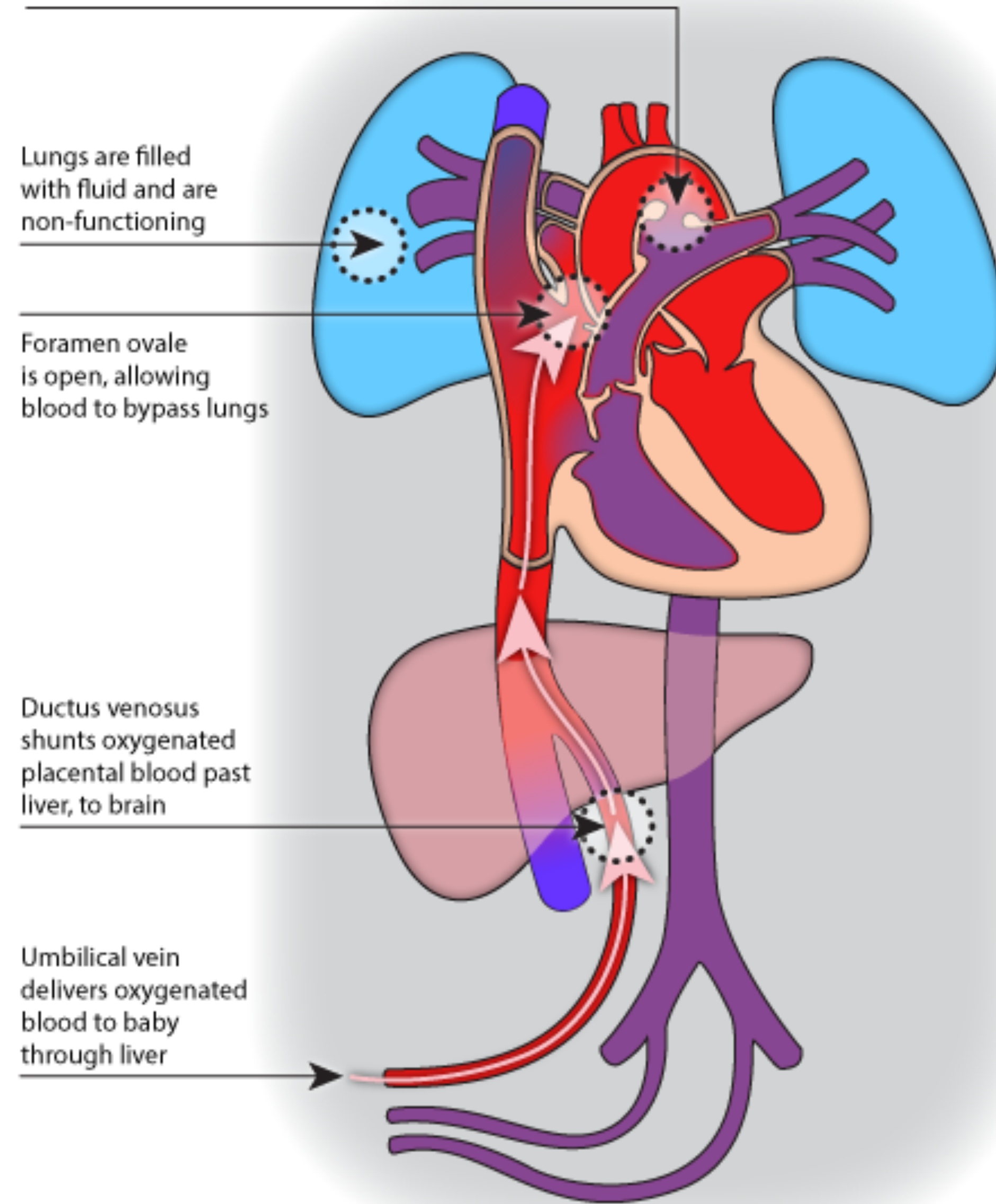
Ductus arteriosus connects pulmonary artery to descending aorta, bypassing lungs

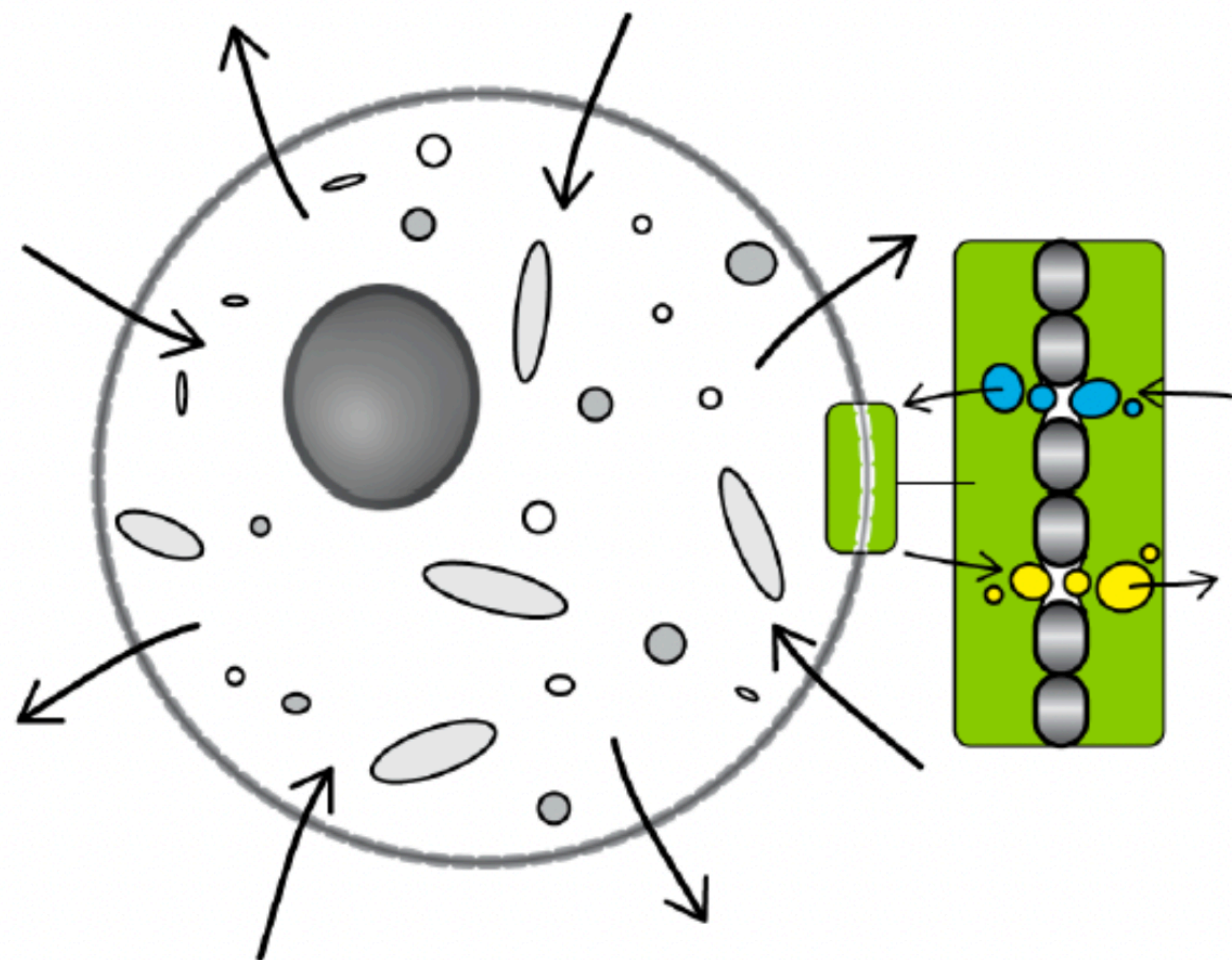
Lungs are filled with fluid and are non-functioning

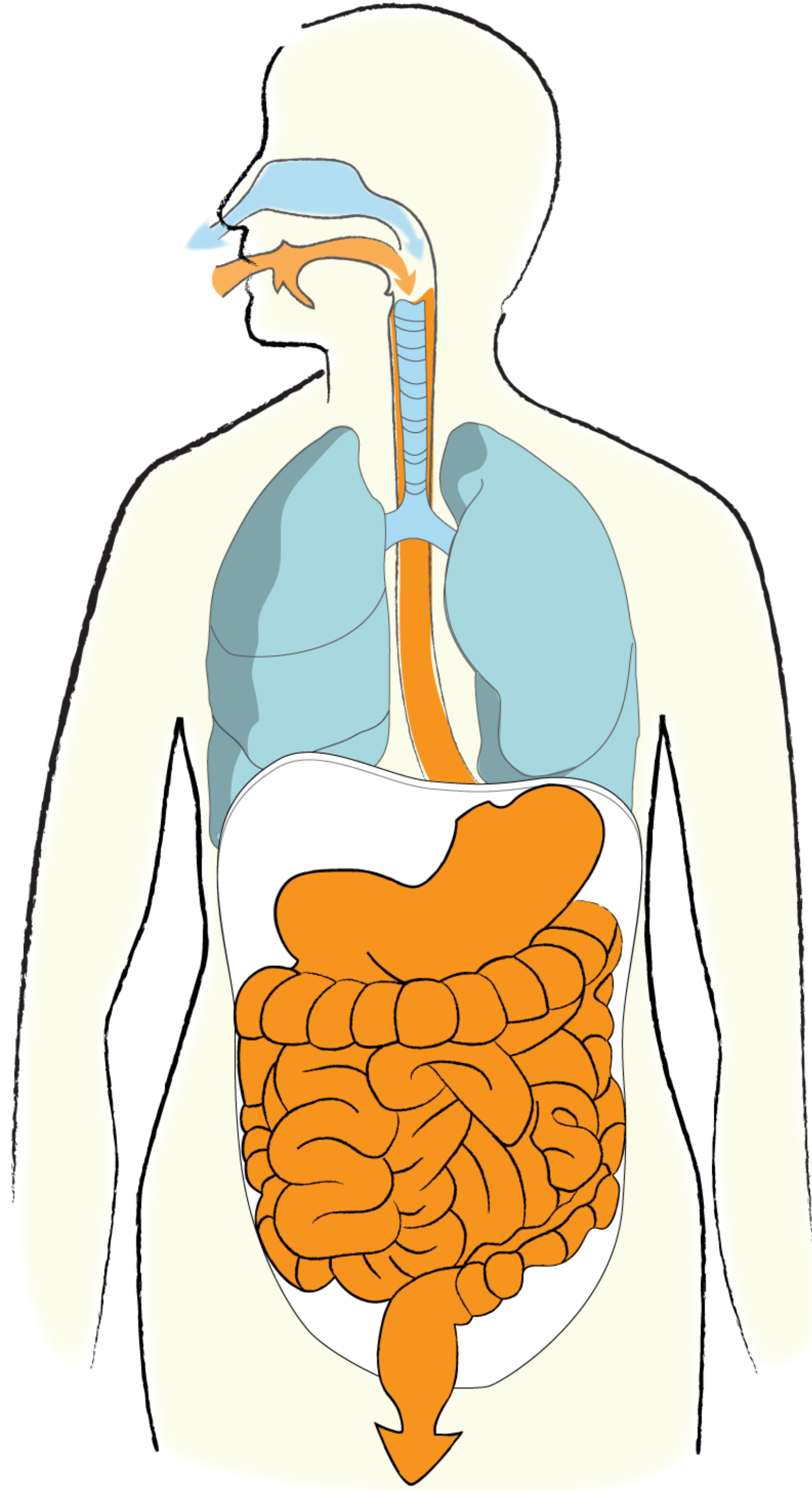
Foramen ovale is open, allowing blood to bypass lungs

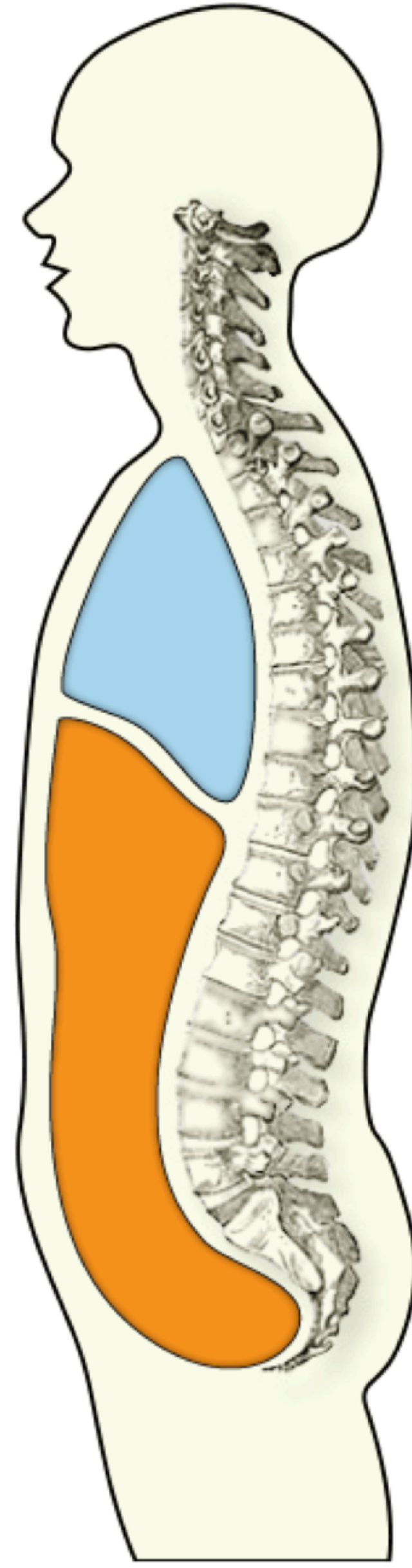
Ductus venosus shunts oxygenated placental blood past liver, to brain

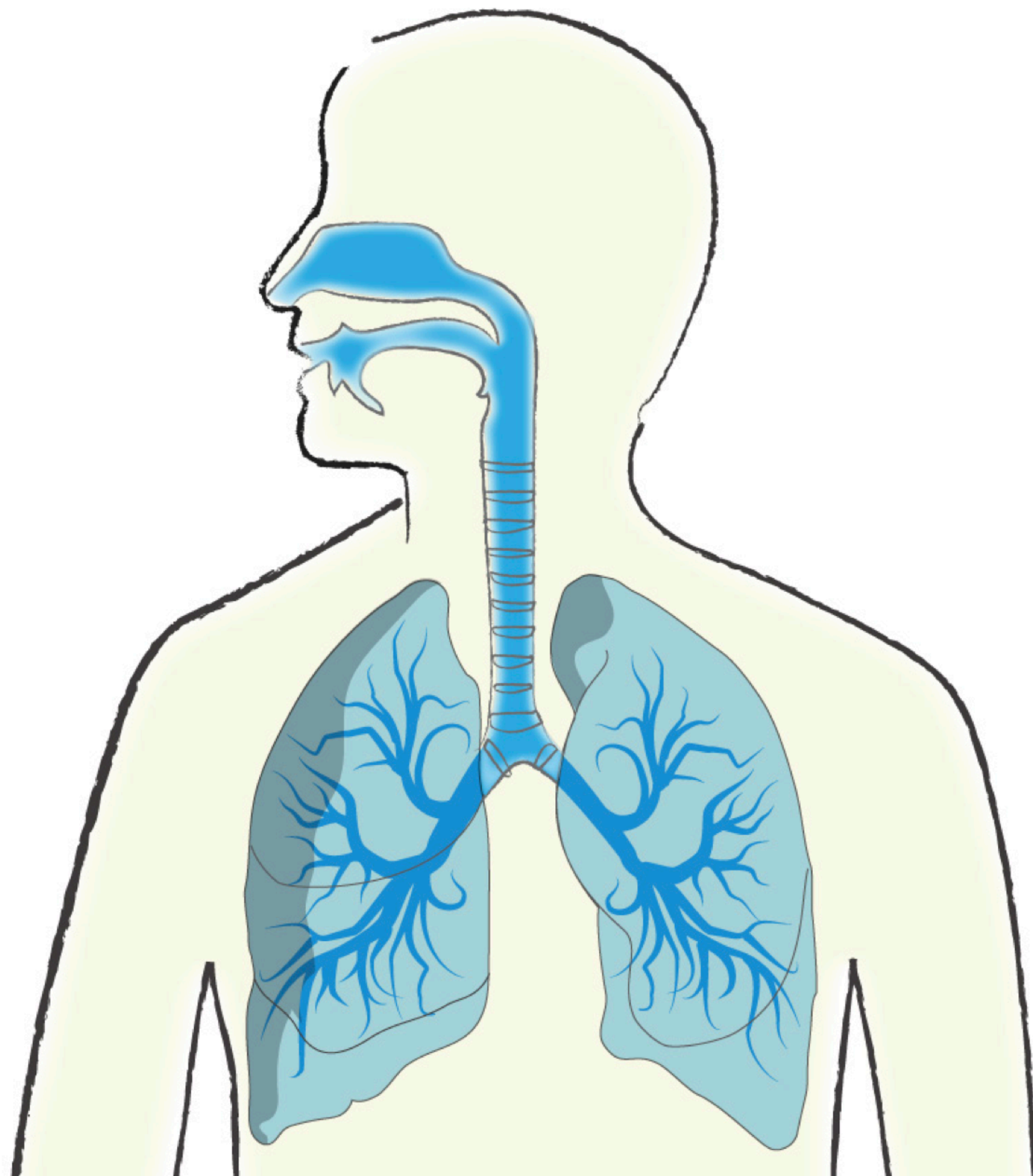
Umbilical vein delivers oxygenated blood to baby through liver











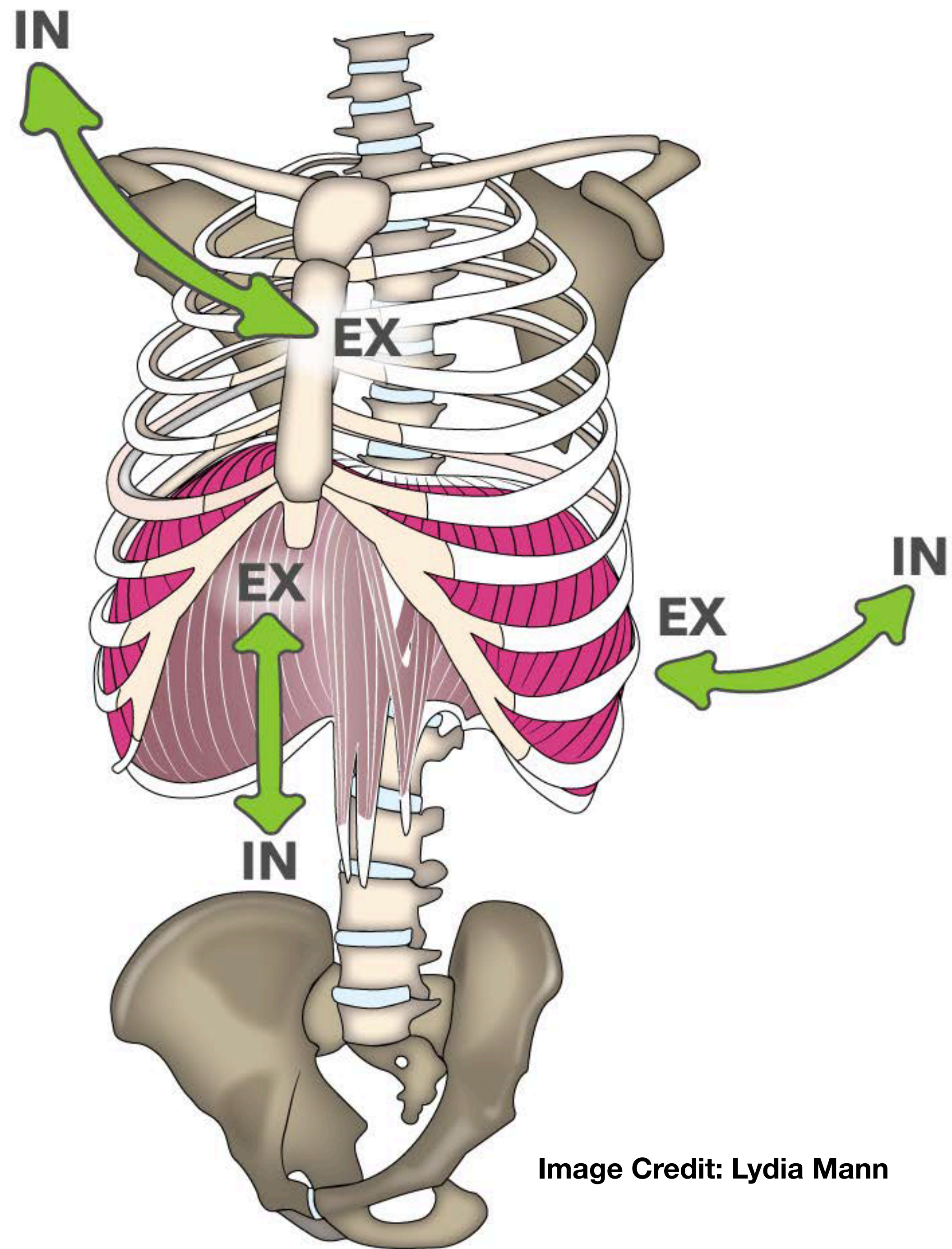
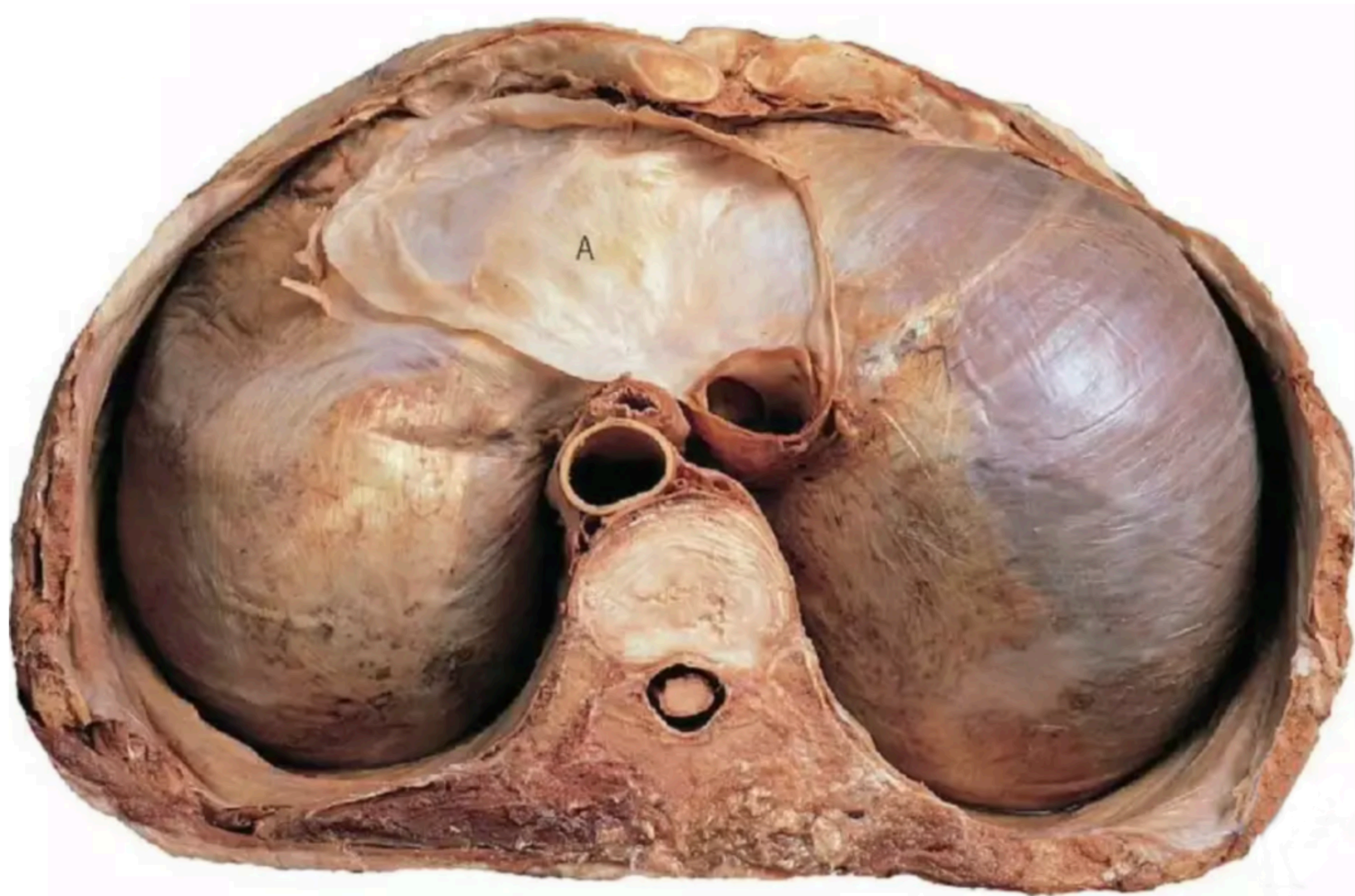
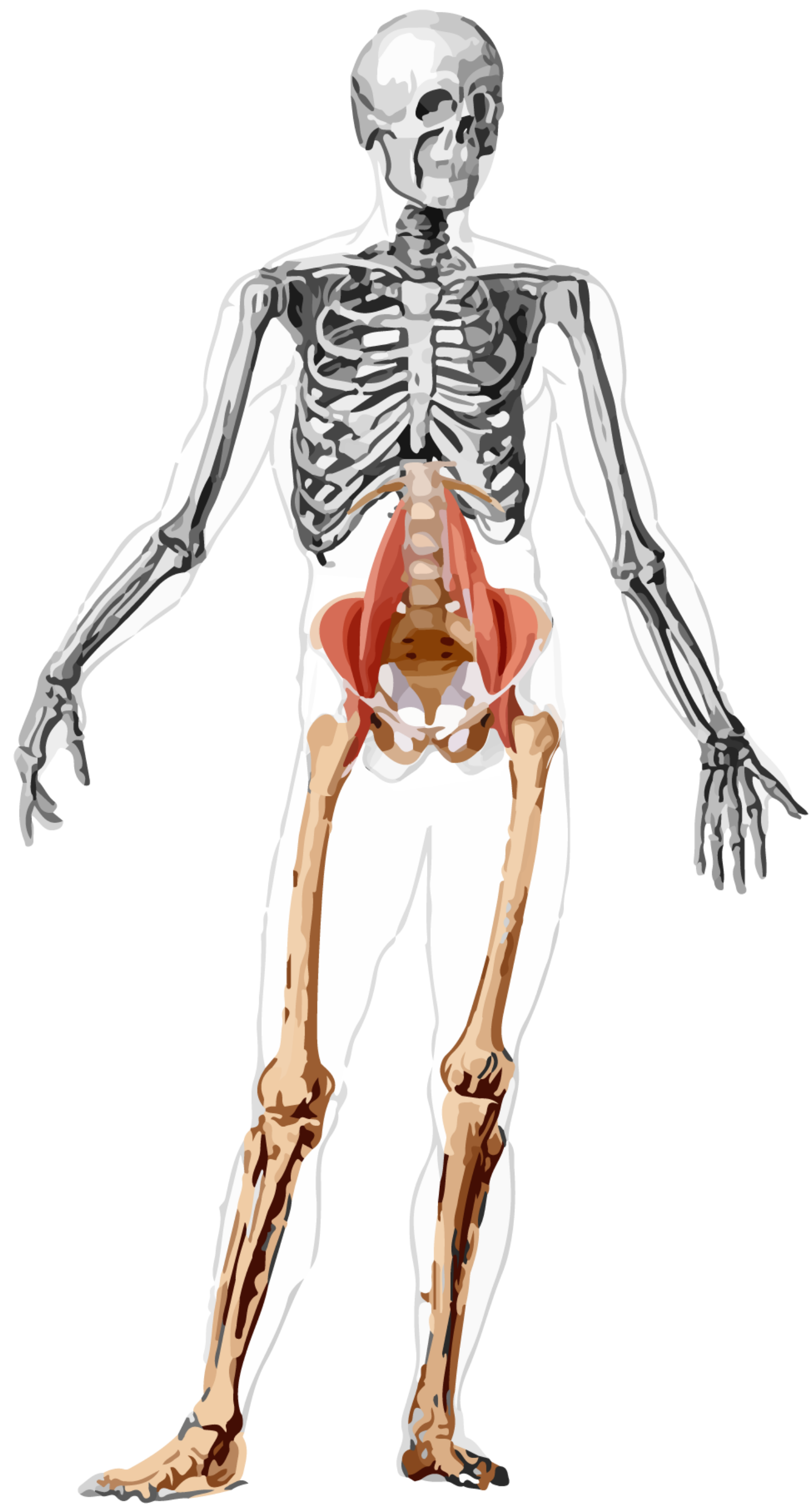
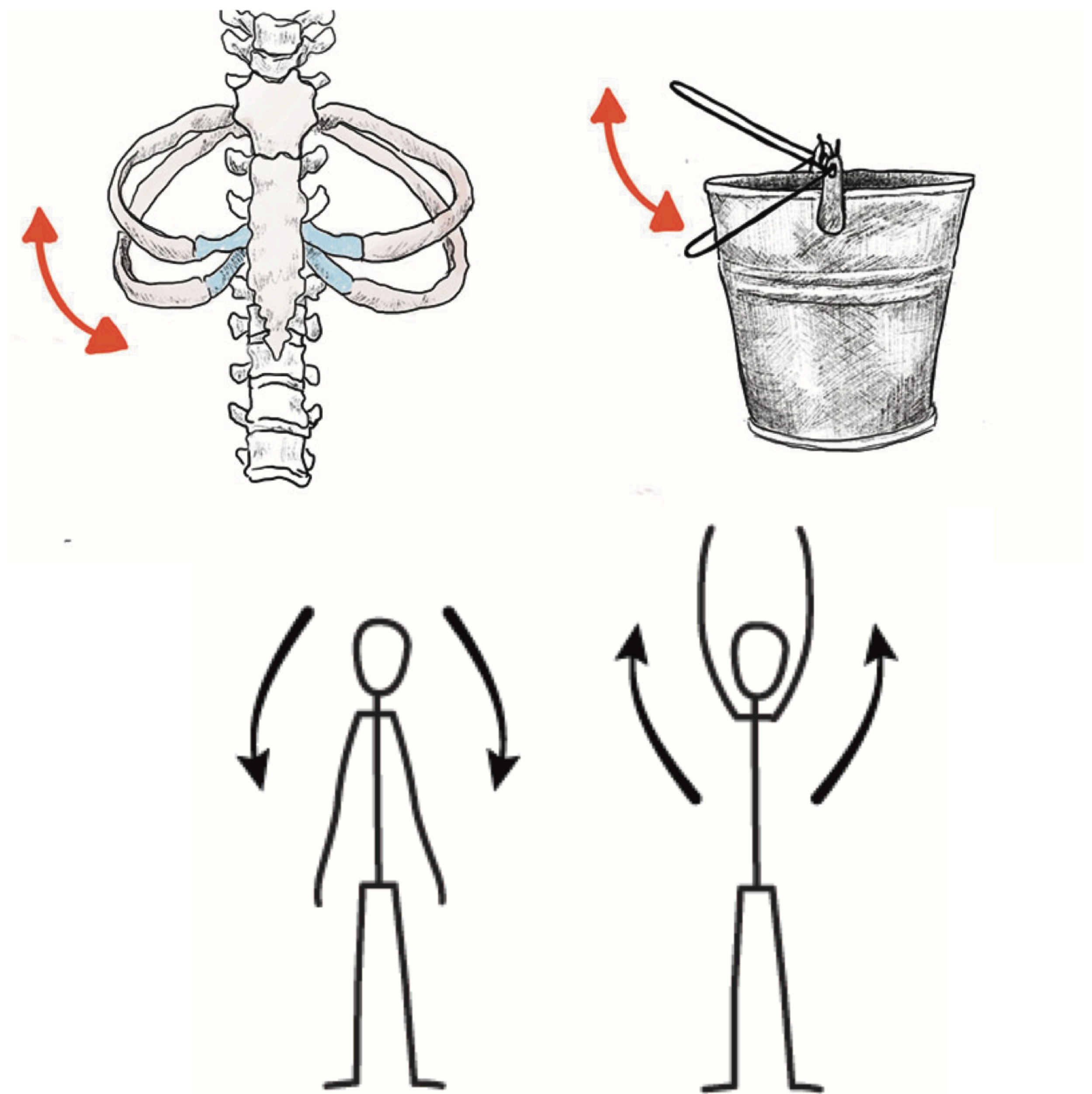
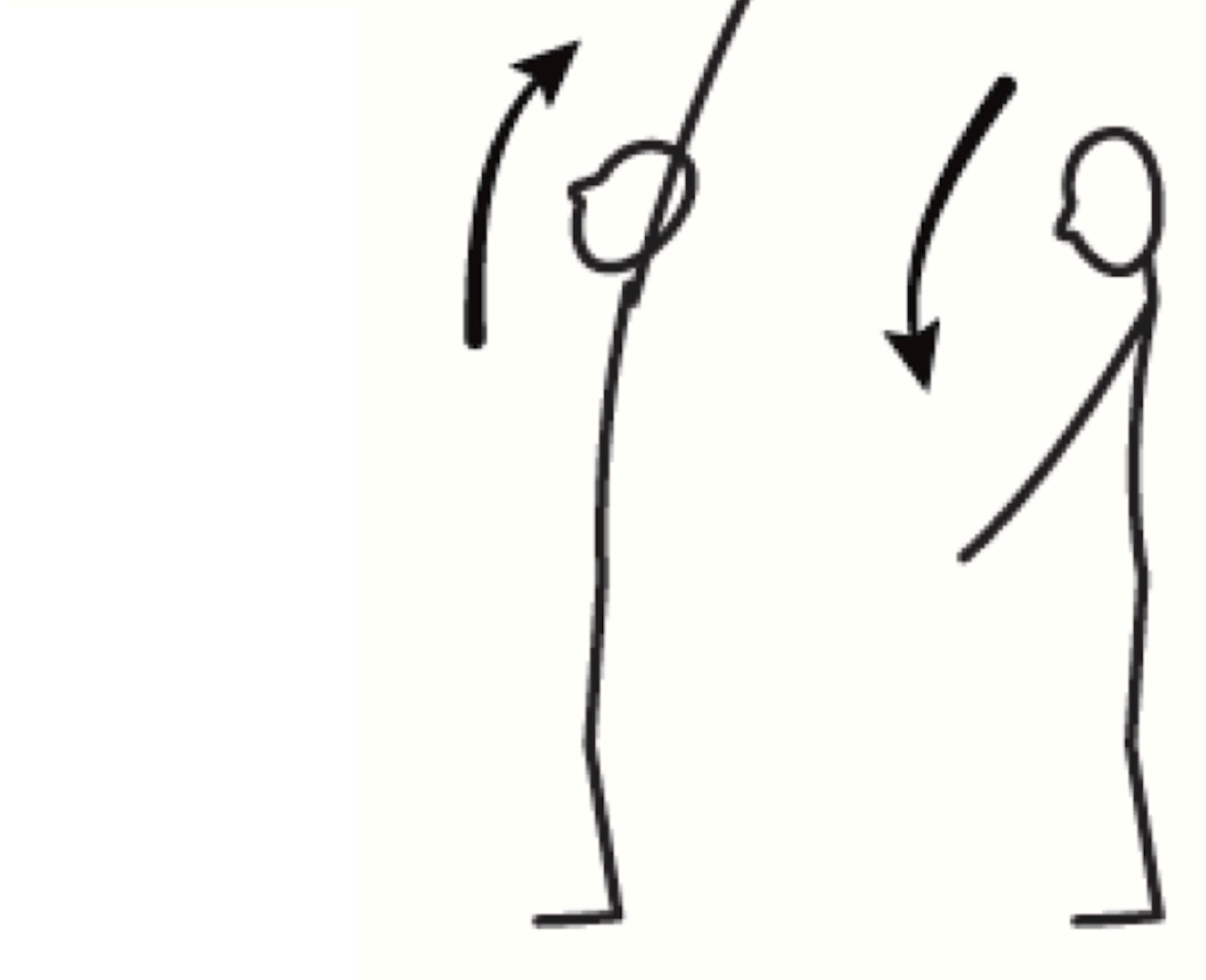
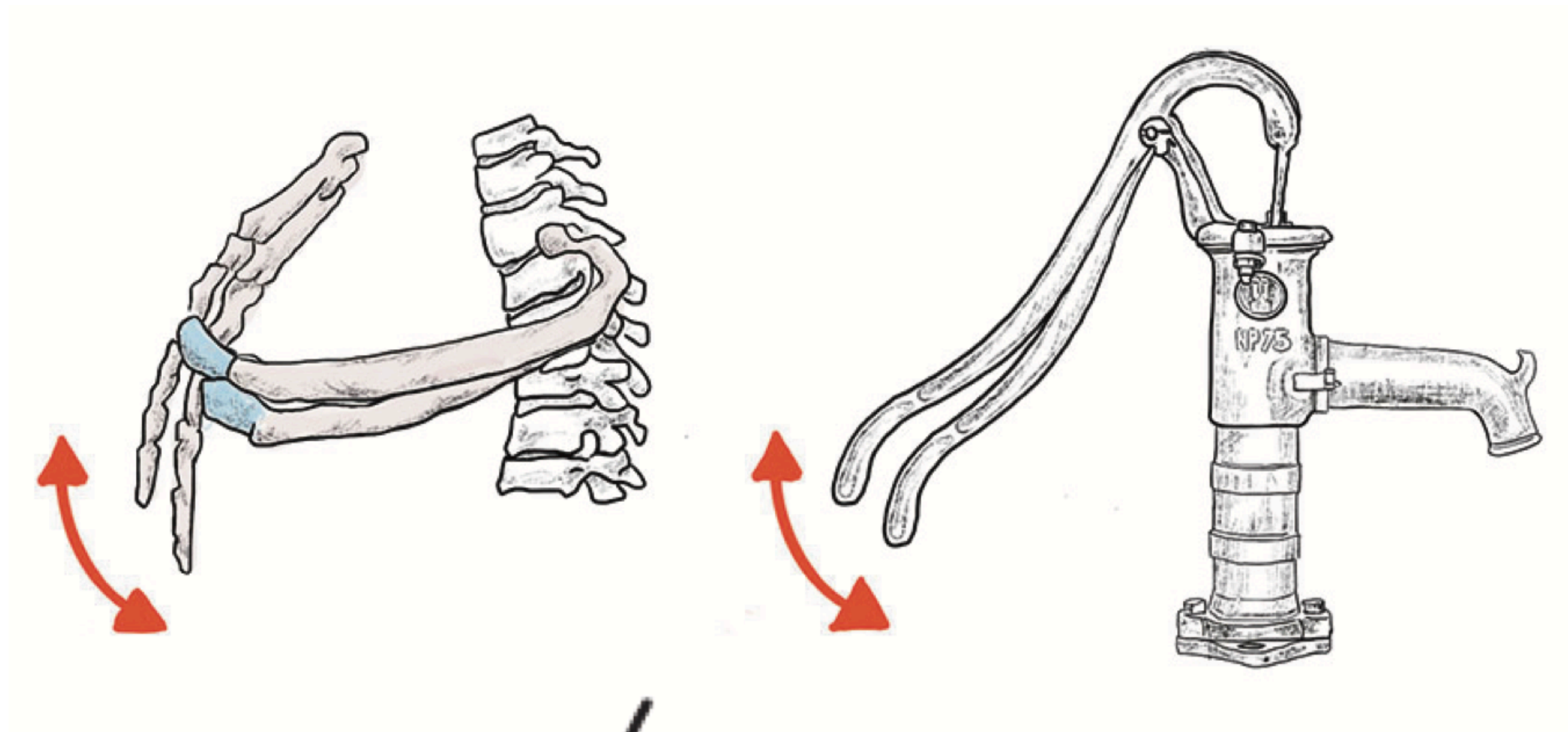


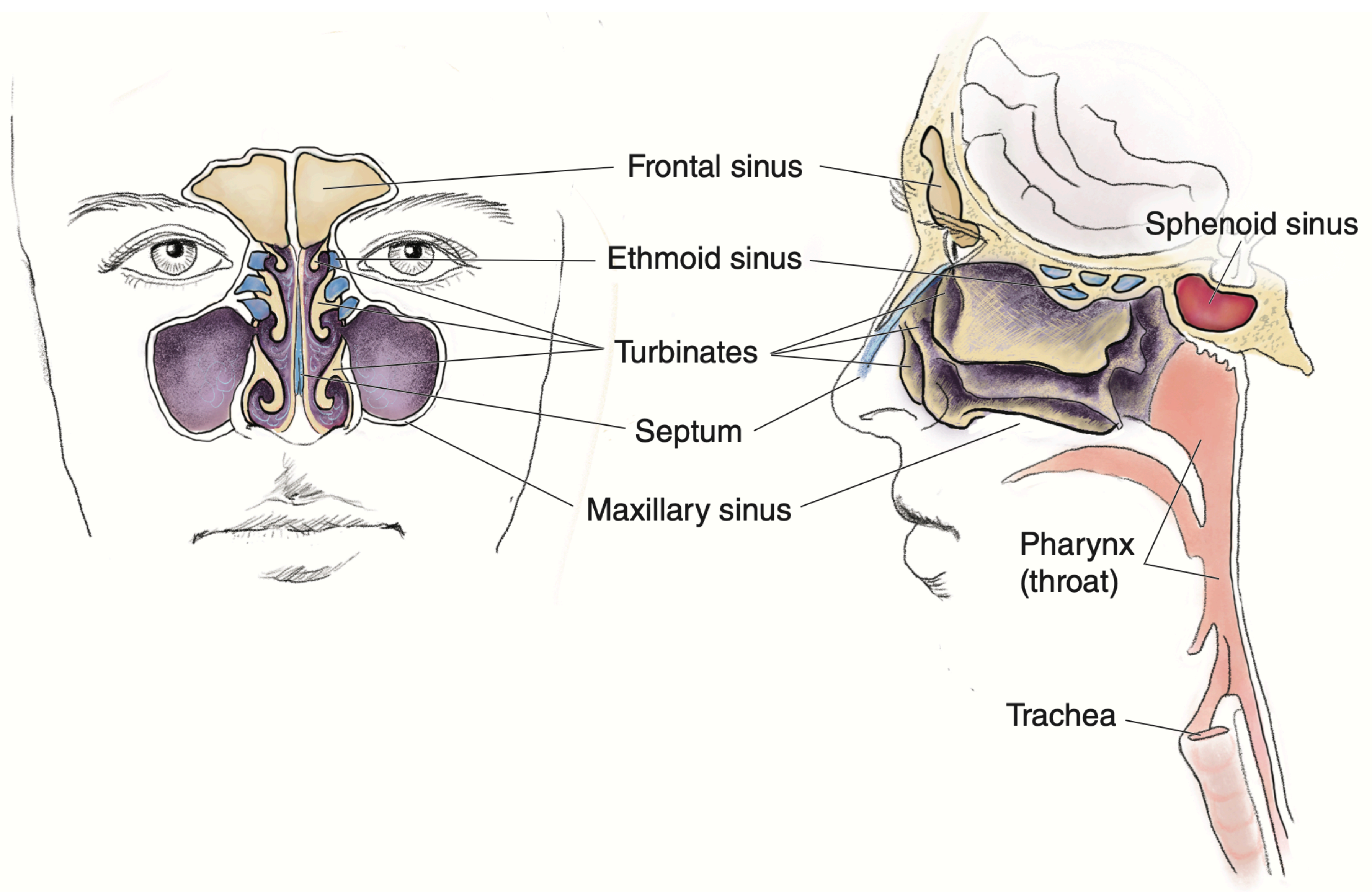
Image Credit: Lydia Mann

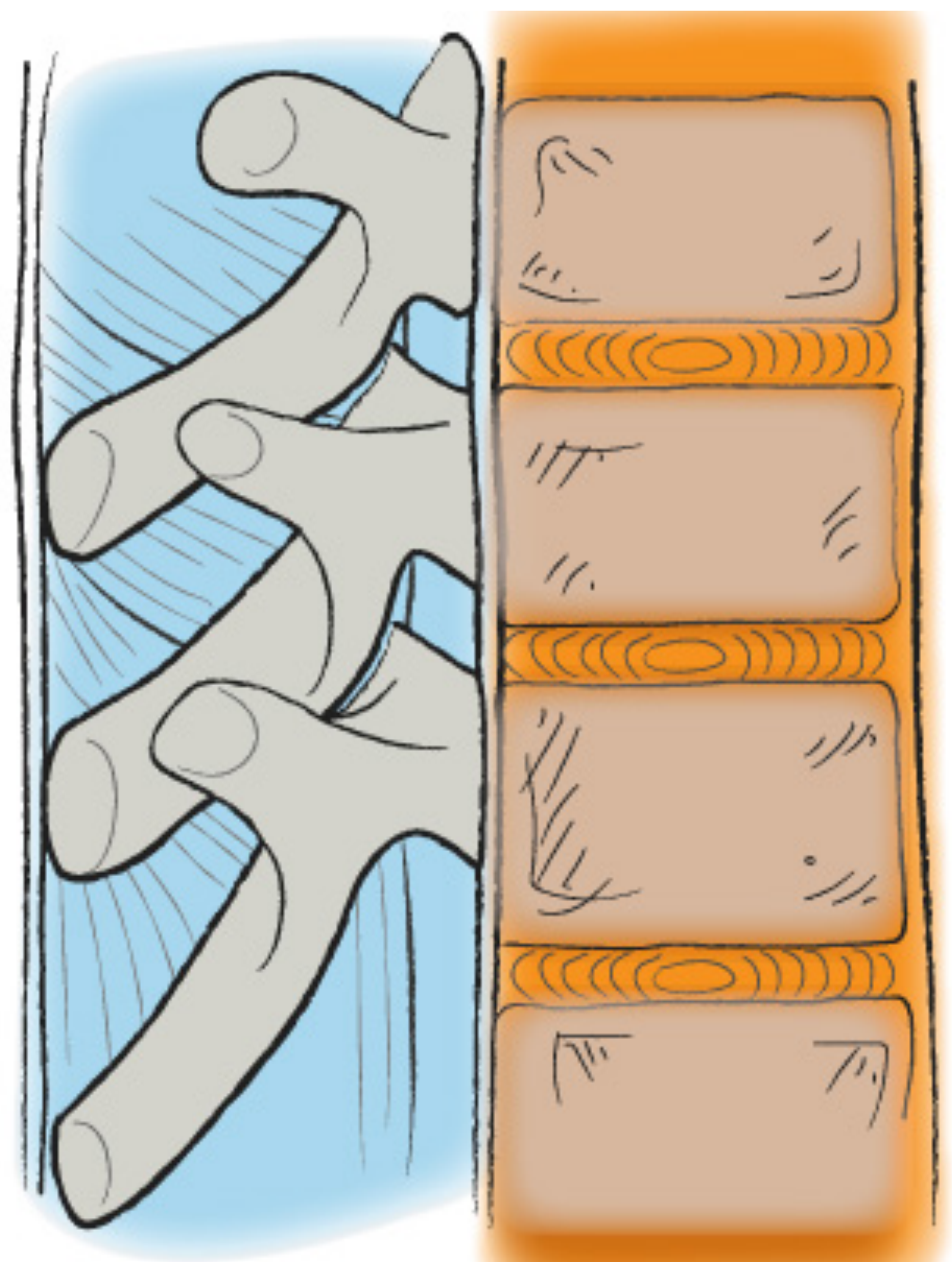












TECHNIQUE FOR BREATH RELEASE/BANDHAS (MOVEMENT BEFORE BREATH)

Dwipada Pitham exploration of all three bandhas. Breath sequence:

- Lift on exhale
- Stay lifted to inhale and feel sternum rise towards chin
- Exhale without letting sternum drop away from chin
- Roll down thru spine on external retention (bhaya kumbhaka)
- “Thermometer” breath on final inhale

