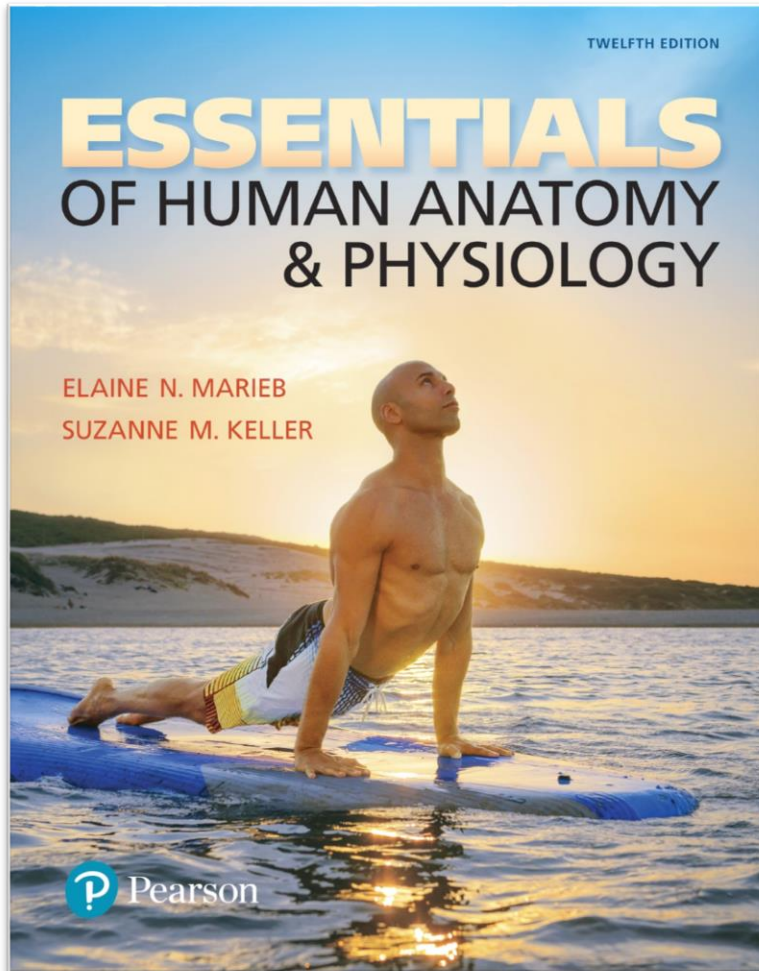


Essentials of Human Anatomy & Physiology

Twelfth Edition



Chapter 11

The Cardiovascular System

Lecture Presentation by
Patty Bostwick-Taylor
Florence-Darlington Technical College

Major Arteries

Arteries of the head and trunk

- Internal carotid artery
- External carotid artery
- Common carotid arteries
- Vertebral artery
- Subclavian artery
- Brachiocephalic trunk
- Aortic arch
- Ascending aorta
- Coronary artery
- Thoracic aorta (above diaphragm)
- Celiac trunk
- Abdominal aorta
- Superior mesenteric artery
- Renal artery
- Gonadal artery

Arteries that supply the upper limb

- Subclavian artery
- Axillary artery
- Brachial artery
- Radial artery
- Ulnar artery

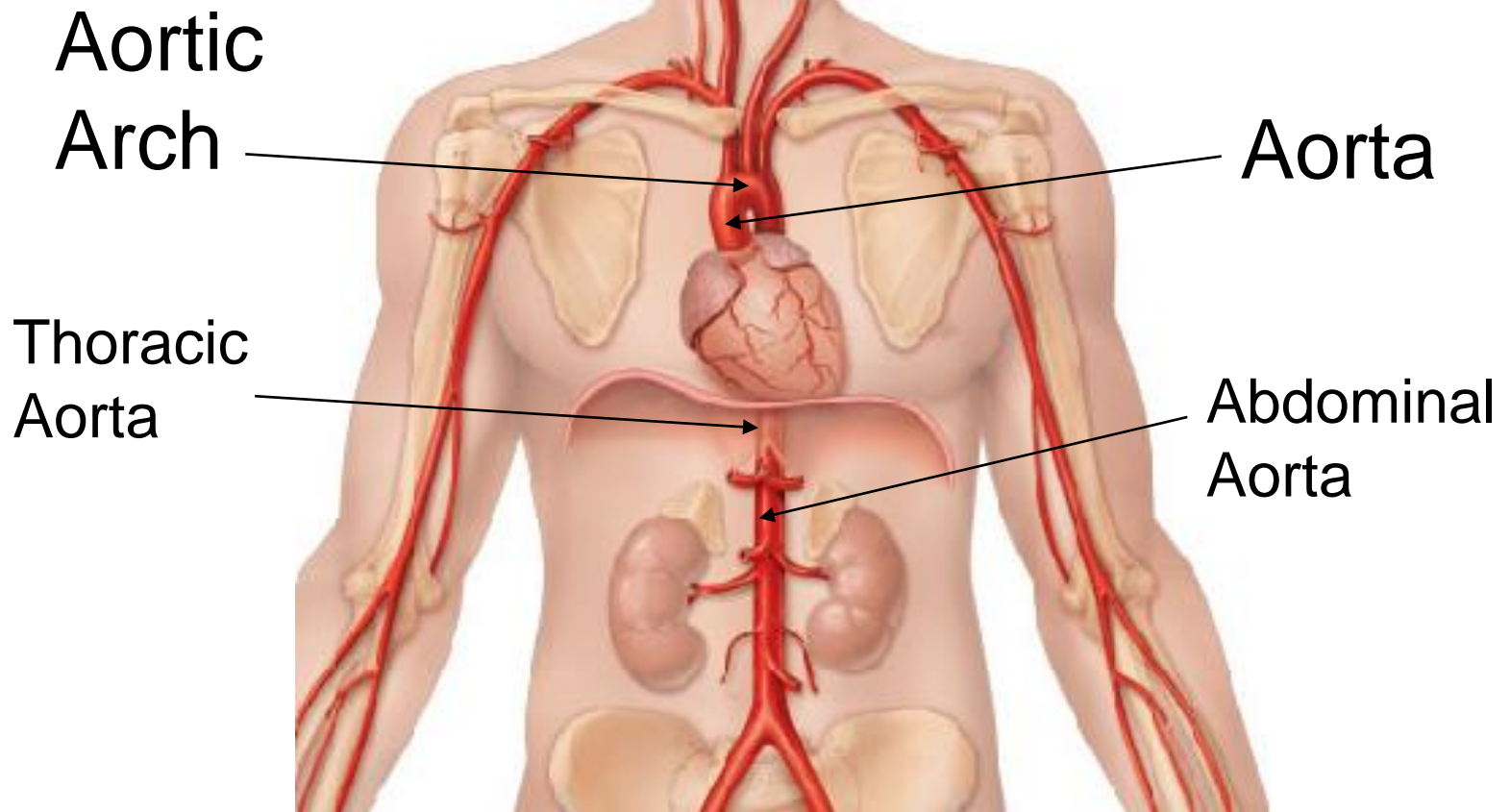
- Deep palmar arch
- Superficial palmar arch
- Digital arteries

Arteries that supply the lower limb

- Inferior mesenteric artery
- Internal iliac artery
- Common iliac artery
- External iliac artery
- Femoral artery
- Popliteal artery
- Anterior tibial artery
- Posterior tibial artery
- Dorsalis pedis artery
- Arcuate artery

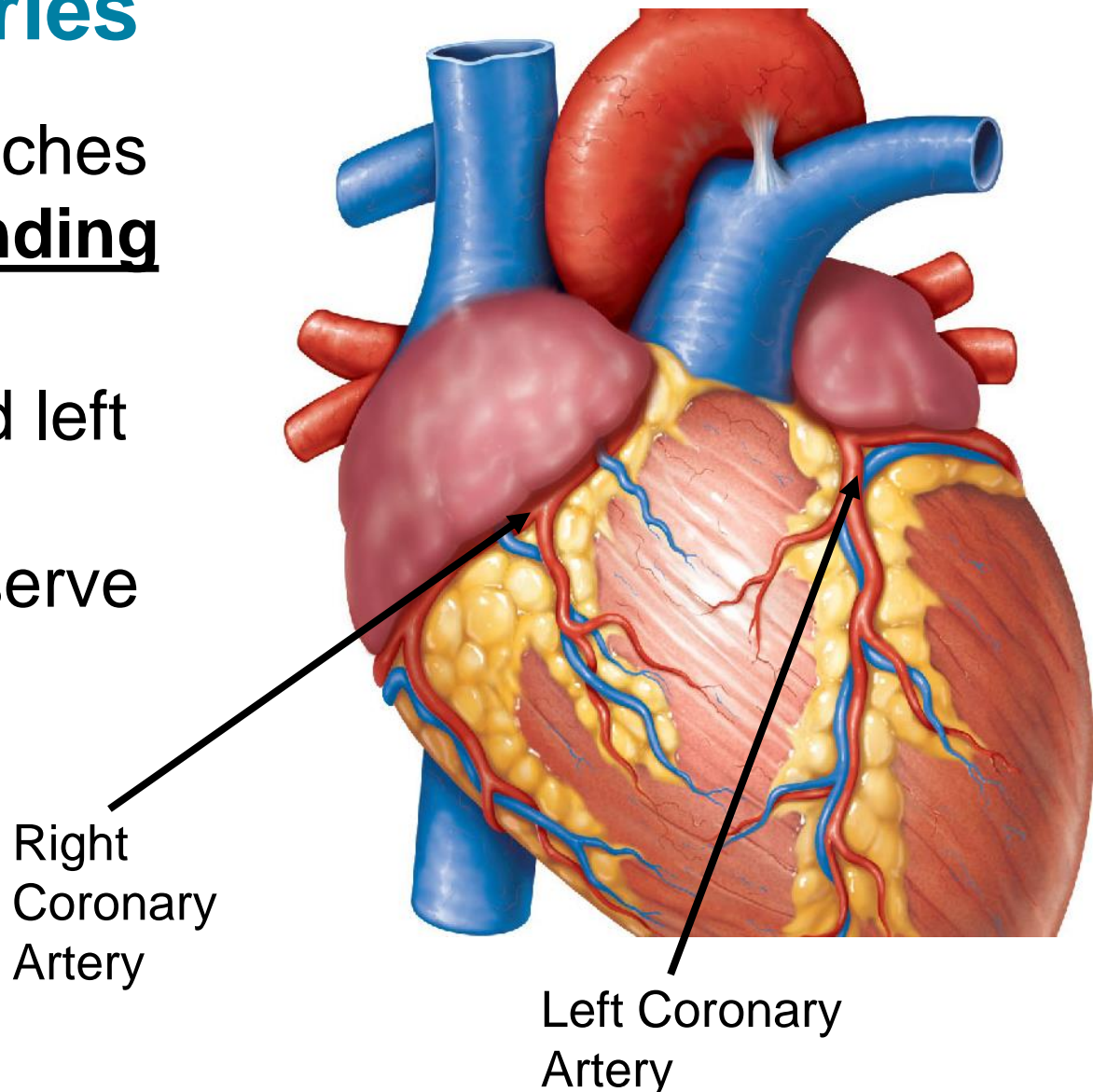
Major Arteries

- Aorta
 - Largest artery in the body
 - Leaves from the left ventricle of the heart
 - Regions
 - Ascending aorta—leaves the left ventricle
 - Aortic arch—arches to the left
 - Thoracic aorta—travels downward through the thorax (above diaphragm)
 - Abdominal aorta—passes through the diaphragm into the abdominopelvic cavity



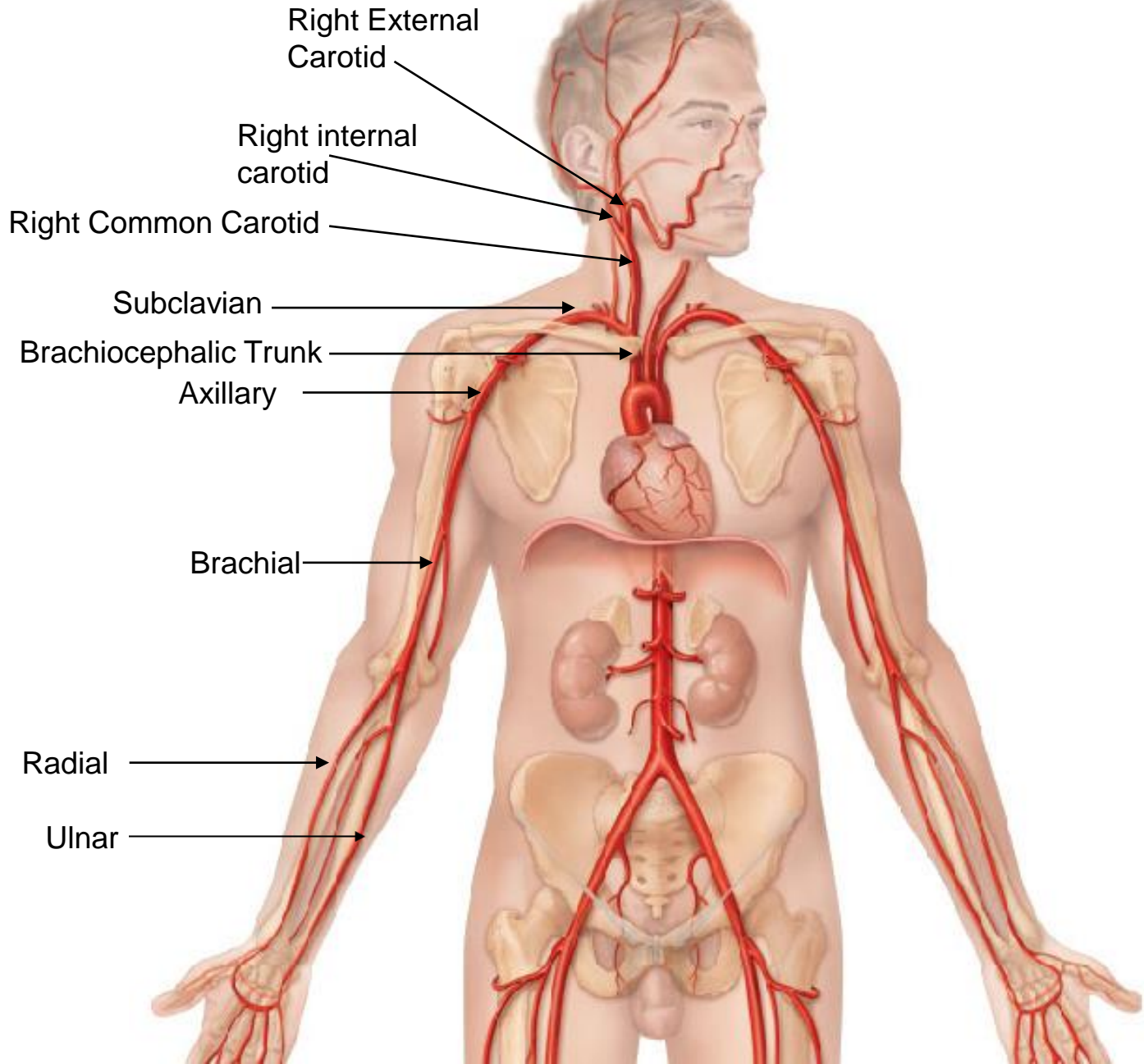
Major Arteries

- Arterial branches of the ascending aorta
 - Right and left coronary arteries serve the heart



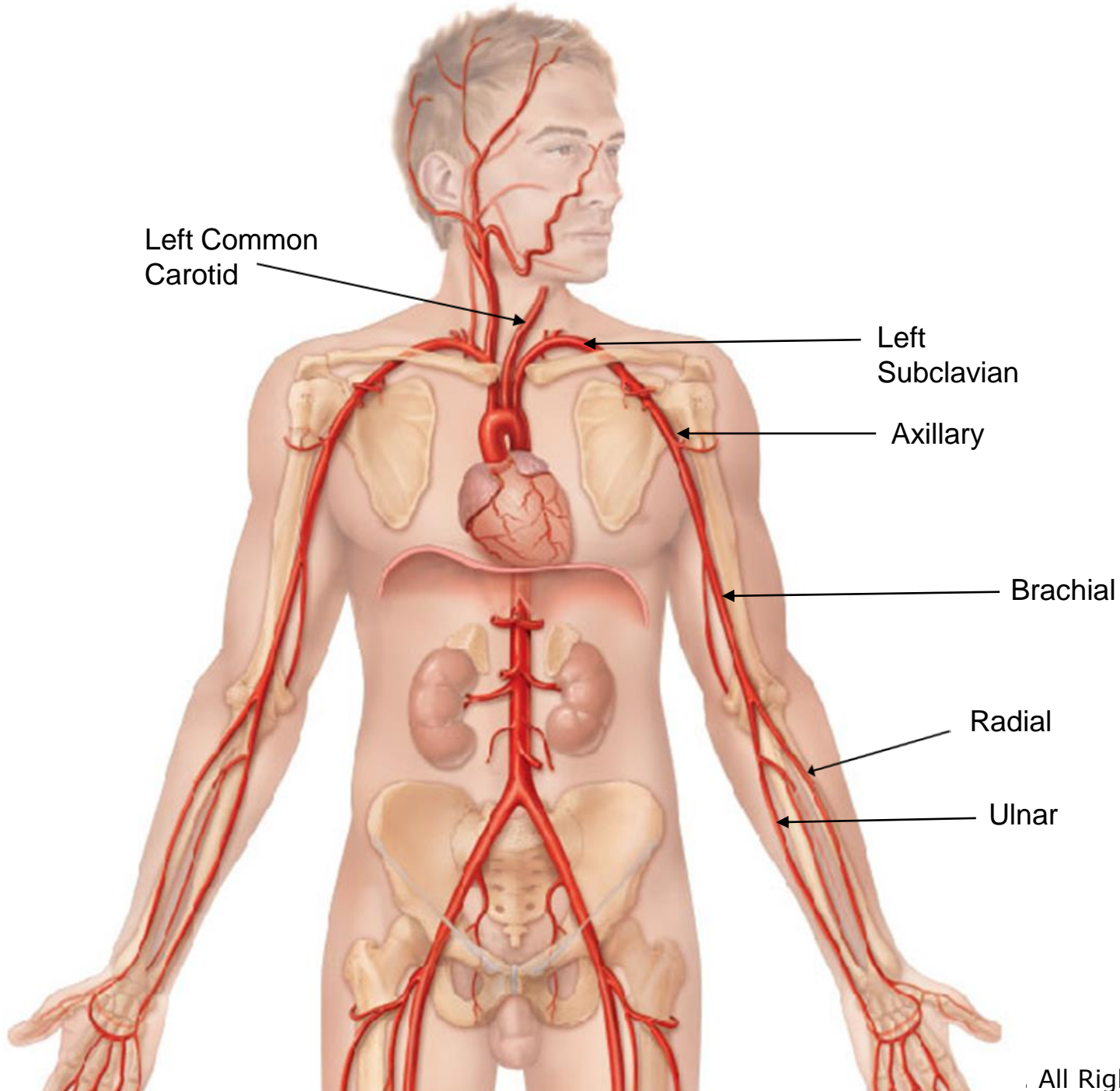
Major Arteries

- Arterial branches of the **aortic arch**
 - (1) Brachiocephalic trunk splits into the:
 - Right common carotid artery → right internal and external carotid artery (in neck)
 - Right subclavian artery (runs along clavicle)
 - In the axilla (armpit), the subclavian artery becomes the axillary artery → brachial (upper arm) artery → radial (thumb) and ulnar (pinkie) arteries



Major Arteries

- Arterial branches of the **aortic arch**
 - (2) Left common carotid artery splits into the:
 - Left internal (serves brain) and external carotid arteries (serves skin and muscles of head & neck)
 - (3) Left subclavian artery (clavicle) branches into the:
 - Vertebral artery (serves brain)
 - In the axilla (armpit), the subclavian artery becomes the axillary artery → brachial artery → radial and ulnar arteries



Left Common Carotid

Left Subclavian

Axillary

Brachial

Radial

Ulnar



Major Arteries

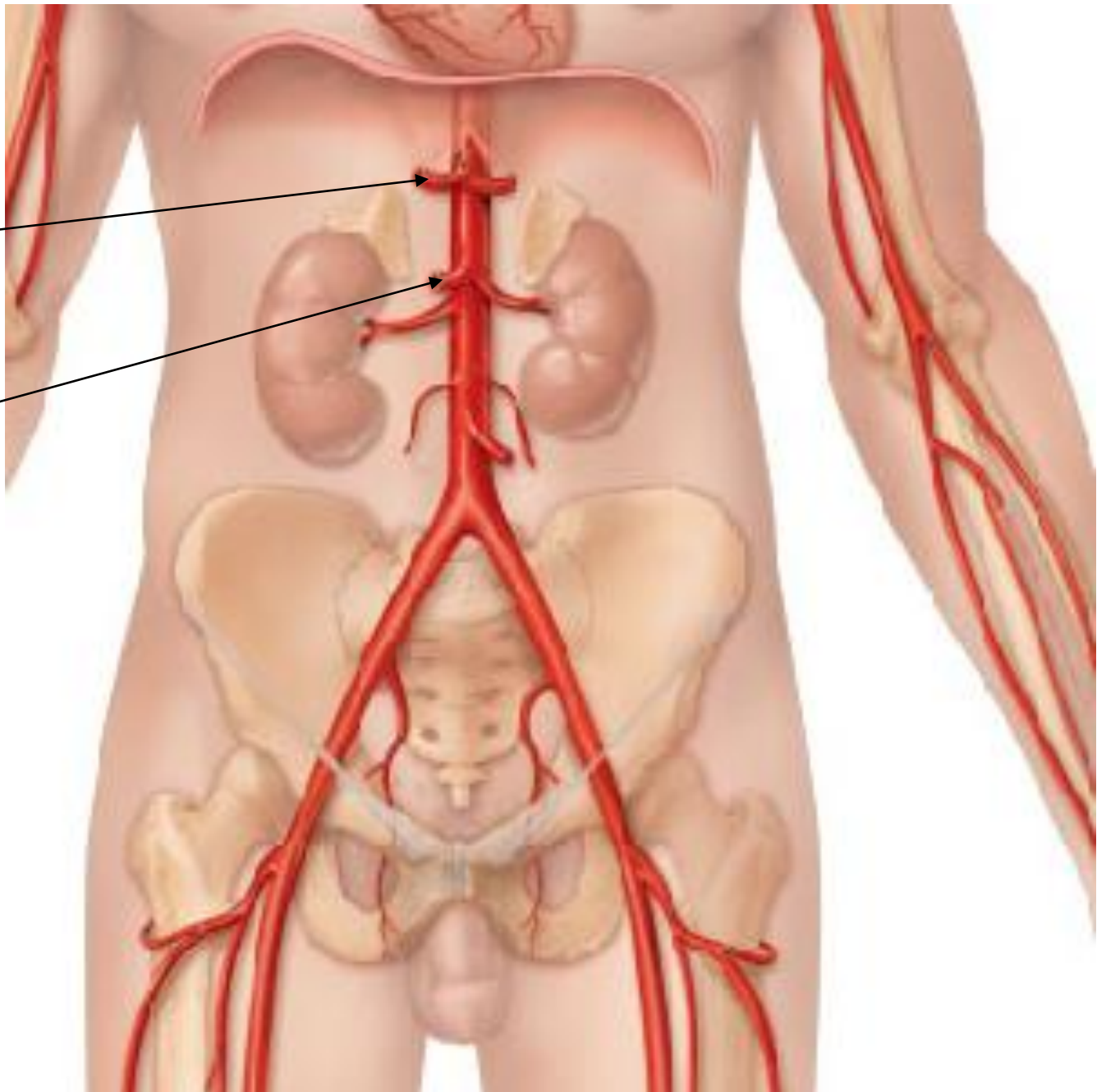
- Arterial branches of the **thoracic aorta**
 - Intercostal arteries supply the muscles of the thorax wall
 - Other branches of the thoracic aorta (not illustrated) supply the:
 - Lungs (bronchial arteries)
 - Esophagus (esophageal arteries)
 - Diaphragm (phrenic arteries)

Major Arteries

- Arterial branches of the **abdominal aorta**
 - Celiac trunk is the first branch of the abdominal aorta. Three branches are:
 1. Left gastric artery (stomach)
 2. Splenic artery (spleen)
 3. Common hepatic artery (liver)
 - Superior mesenteric artery supplies most of the small intestine and first half of the large intestine

Celiac Trunk

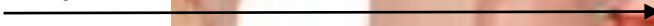
Superior
Mesenteric
Artery



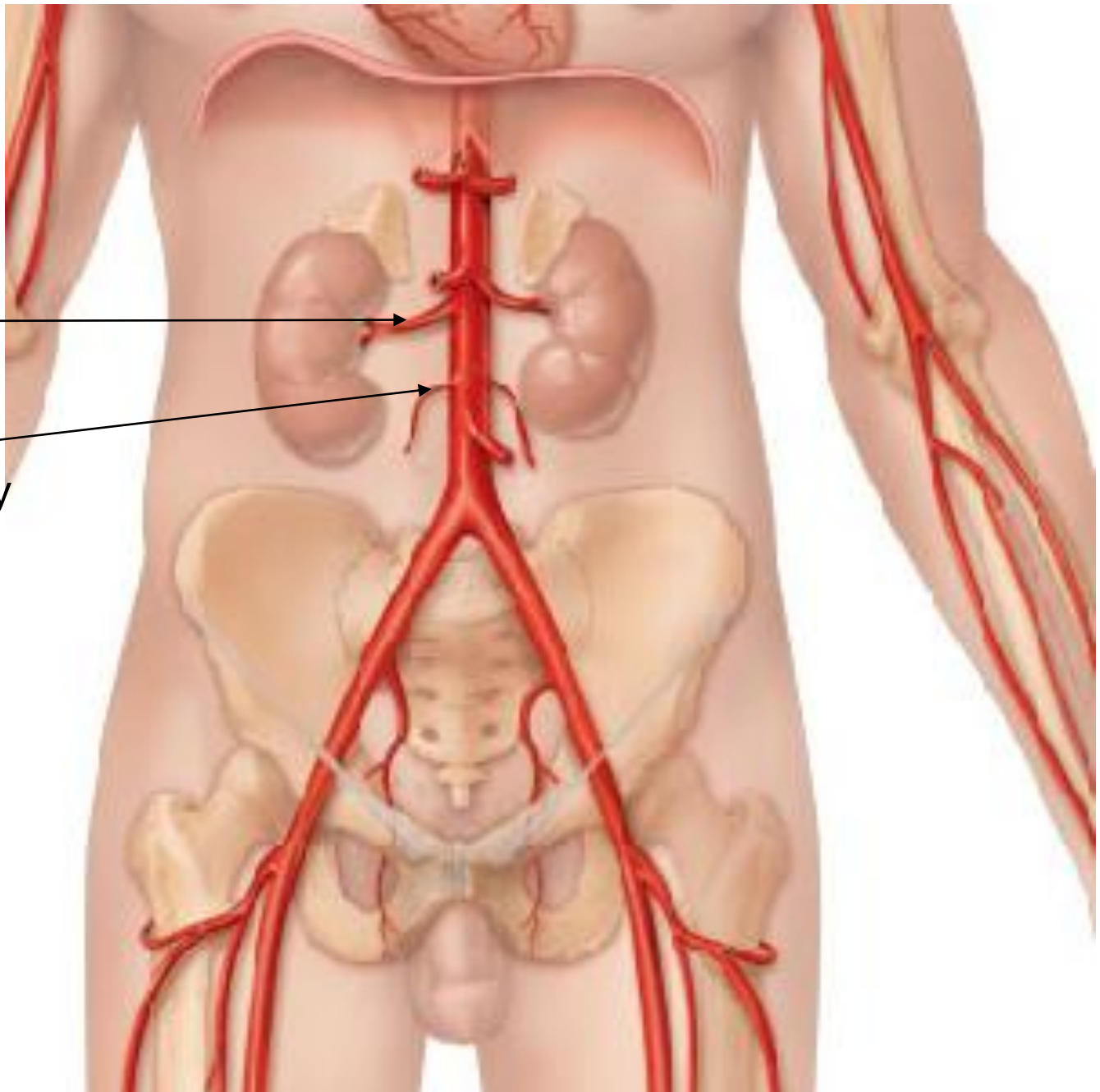
Major Arteries

- Arterial branches of the **abdominal aorta**
 - Left and right renal arteries (kidney)
 - Left and right gonadal arteries
 - Ovarian arteries in females serve the ovaries
 - Testicular arteries in males serve the testes
 - Lumbar arteries serve muscles of the abdomen and trunk

Renal Artery



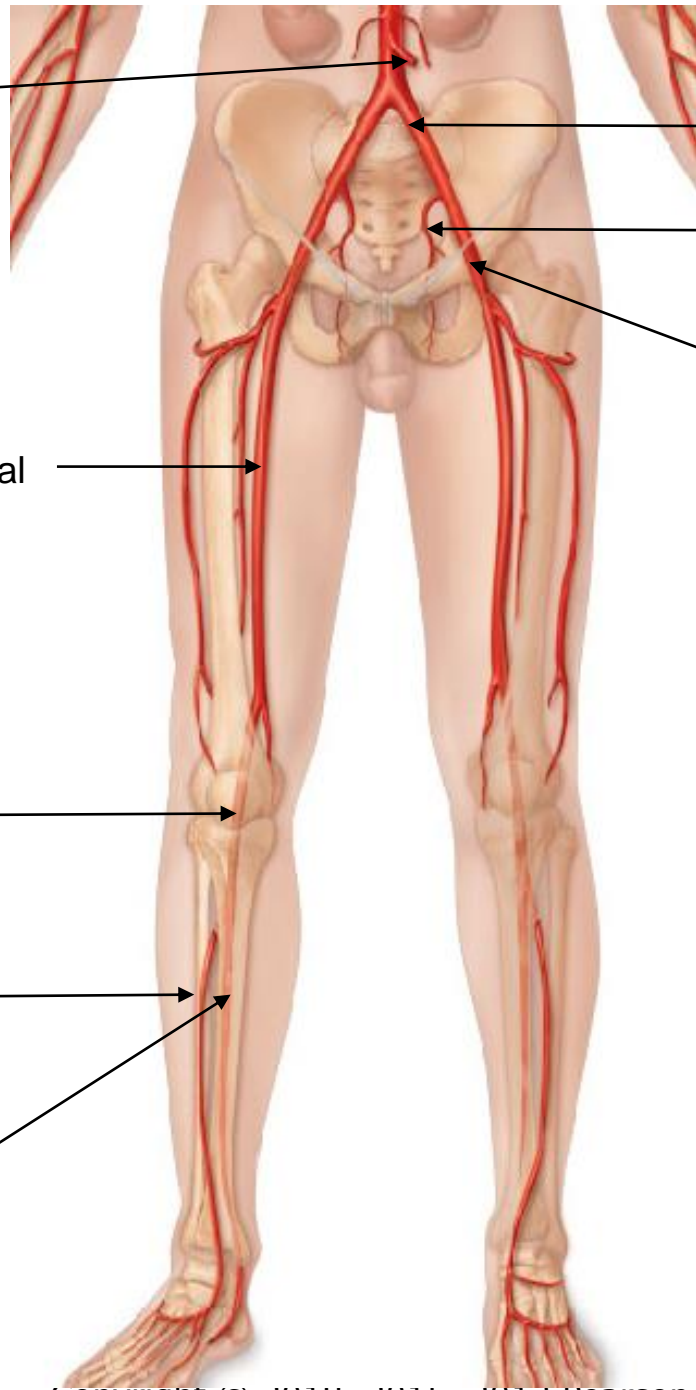
Gonadal Artery



Major Arteries

- Arterial branches of the **abdominal aorta**
 - Inferior mesenteric artery serves the second half of the large intestine
 - Left and right common iliac arteries are the final branches of the aorta
 - Internal iliac arteries serve the pelvic organs
 - External iliac arteries enter the thigh → femoral artery → popliteal artery → anterior and posterior tibial arteries

Inferior
mesenteric
artery



Common Iliac

Internal iliac

External iliac

femoral

Popliteal

Anterior tibial

Posterior tibial