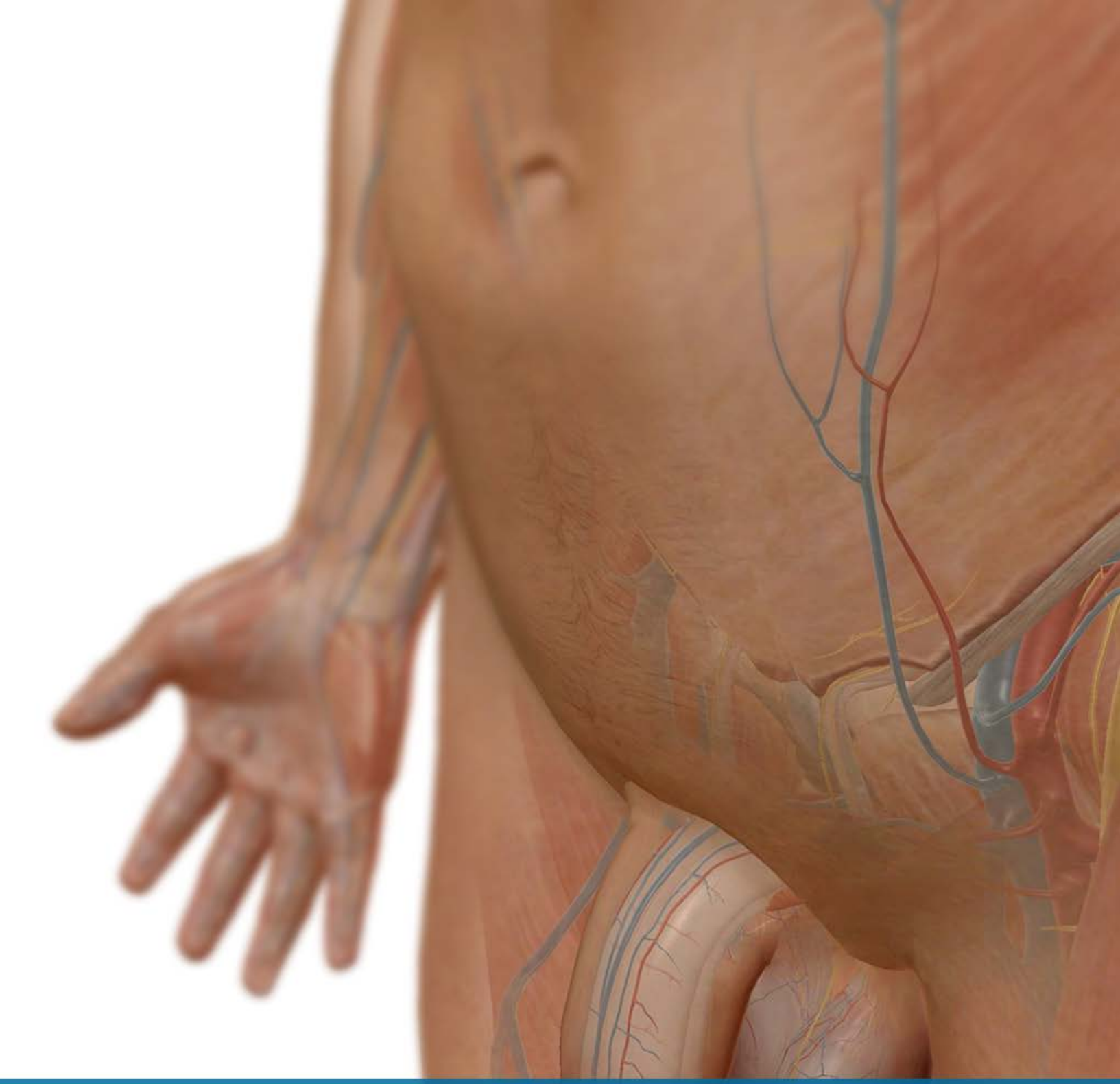

VISIBLE BODY®

The Reproductive System: Male Anatomy

A reproductive system lab activity using Visible Body Suite

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PRE-LAB EXERCISES

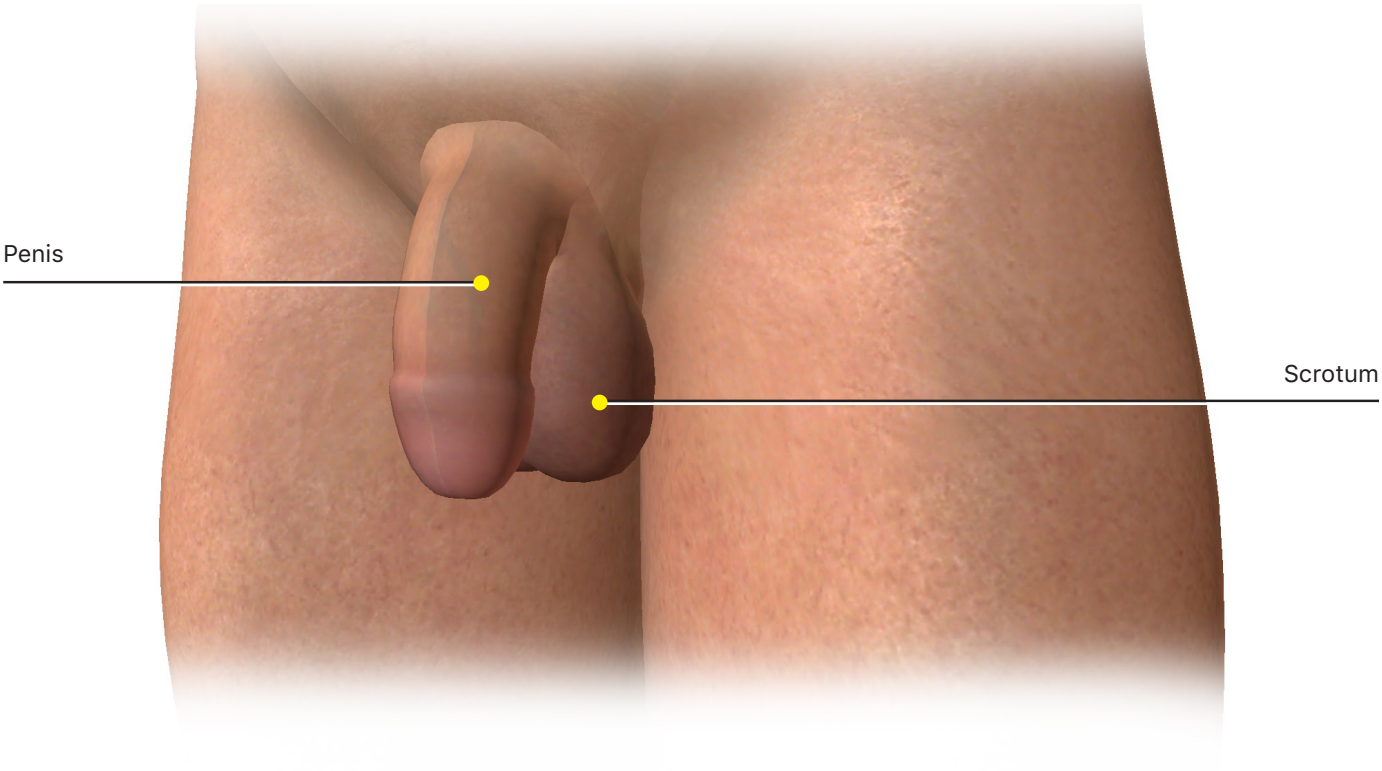
Open Visible Body Suite. Search for and select each of the Reproductive System Views noted in the exercises below. You can manipulate the images to see different views and isolate each structure. Be sure to select the book icon under the structure name to read information specific to that structure.

As you explore the modules, locate the organs and related structures on any additional charts, models, or specimens available.

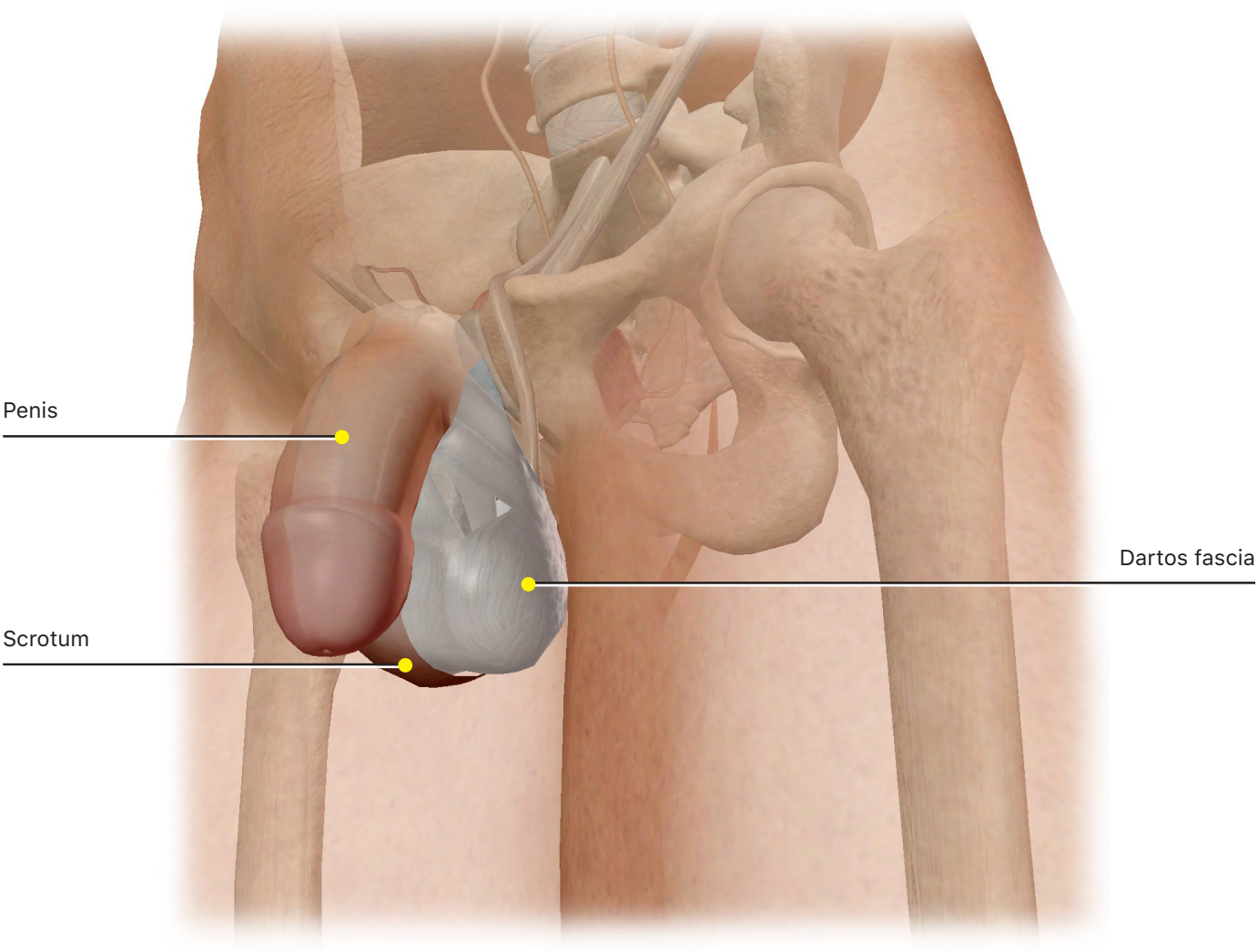
Make the following observations, and note that you are responsible for **all bold terms** and diagram labels.

A. Male Reproductive System Overview

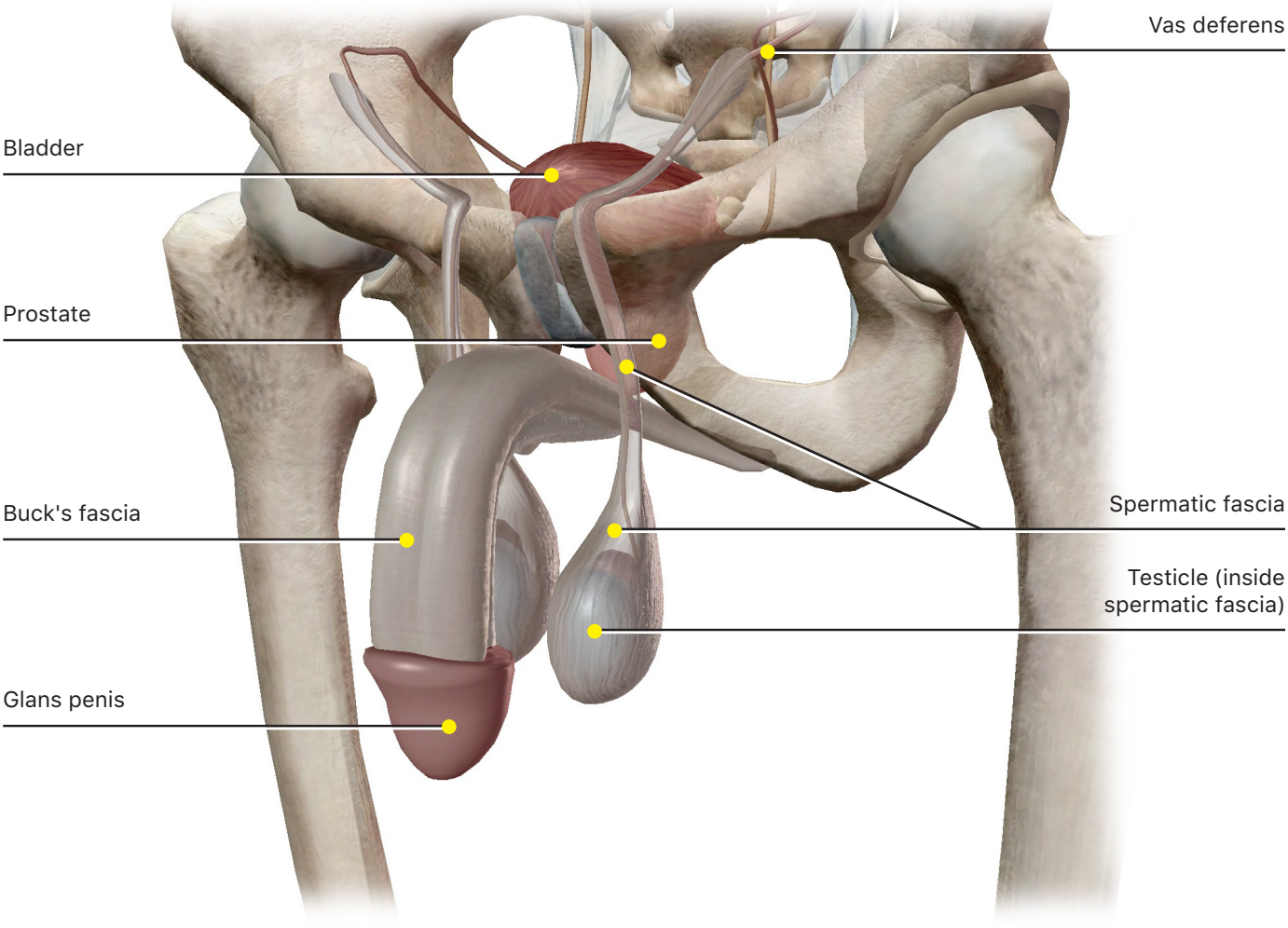
Open the Reproductive System View "Reproductive System (M)."



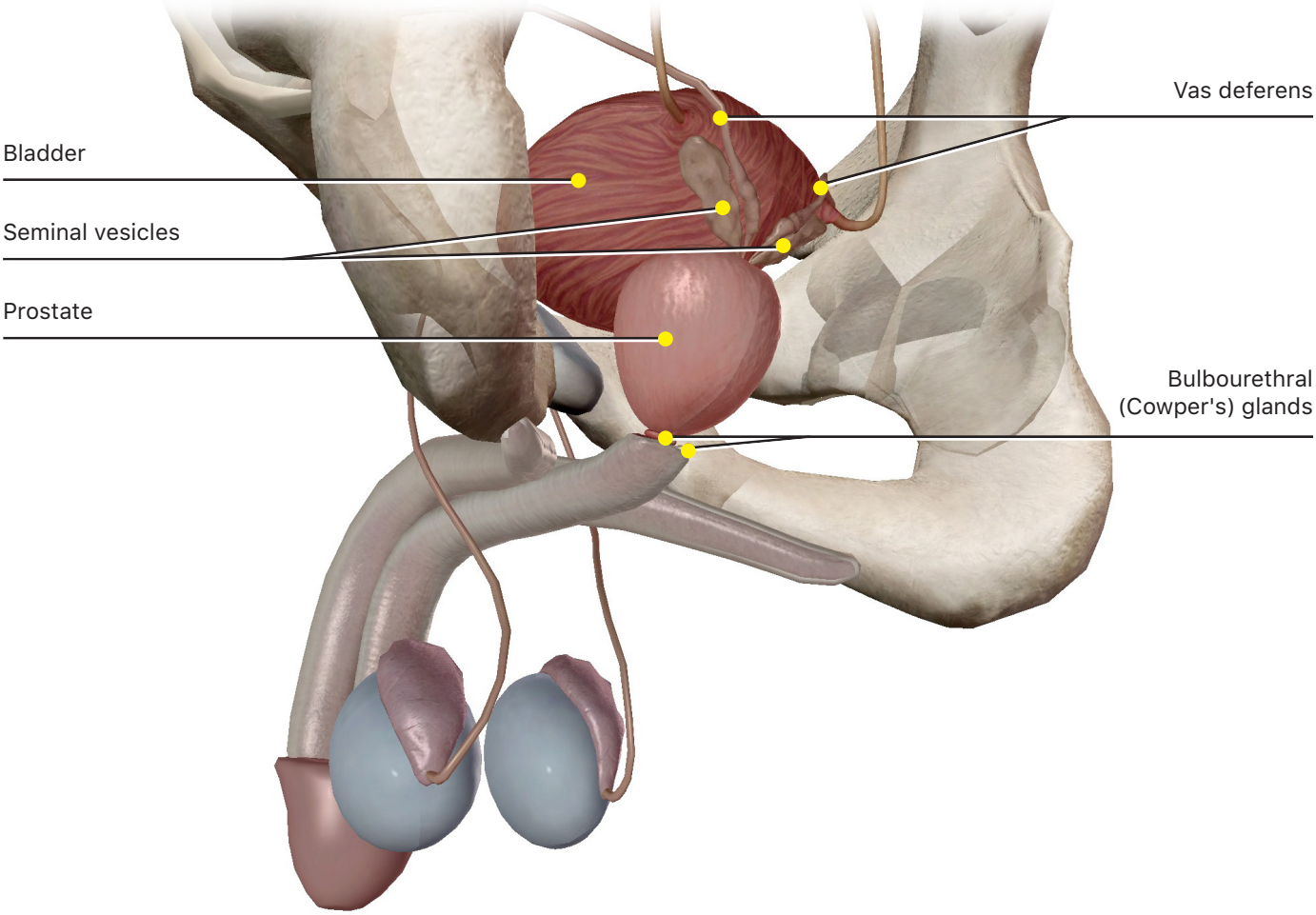
1. The external organs of the male reproductive system, the **penis** and the **testes**, lie outside the pelvis. In the Systems Tray on the left side of your screen, deselect the skin icon to hide the skin from the view. Select any part of the **penis** or scrotum to see the **dartos fascia**, the connective tissue that surrounds the external organs.



2. Hide the dartos fascia and select either of the **testicles (testes)**. This will highlight the **spermatic fascia** that cover the testes and continue as tubes over the pubis and into the pelvic cavity.



3. In the Systems Tray, deselect the skeletal system icon (the skull) and follow the path of the spermatic fascia to the **vas deferens**, over the **bladder**, and into the **prostate**.

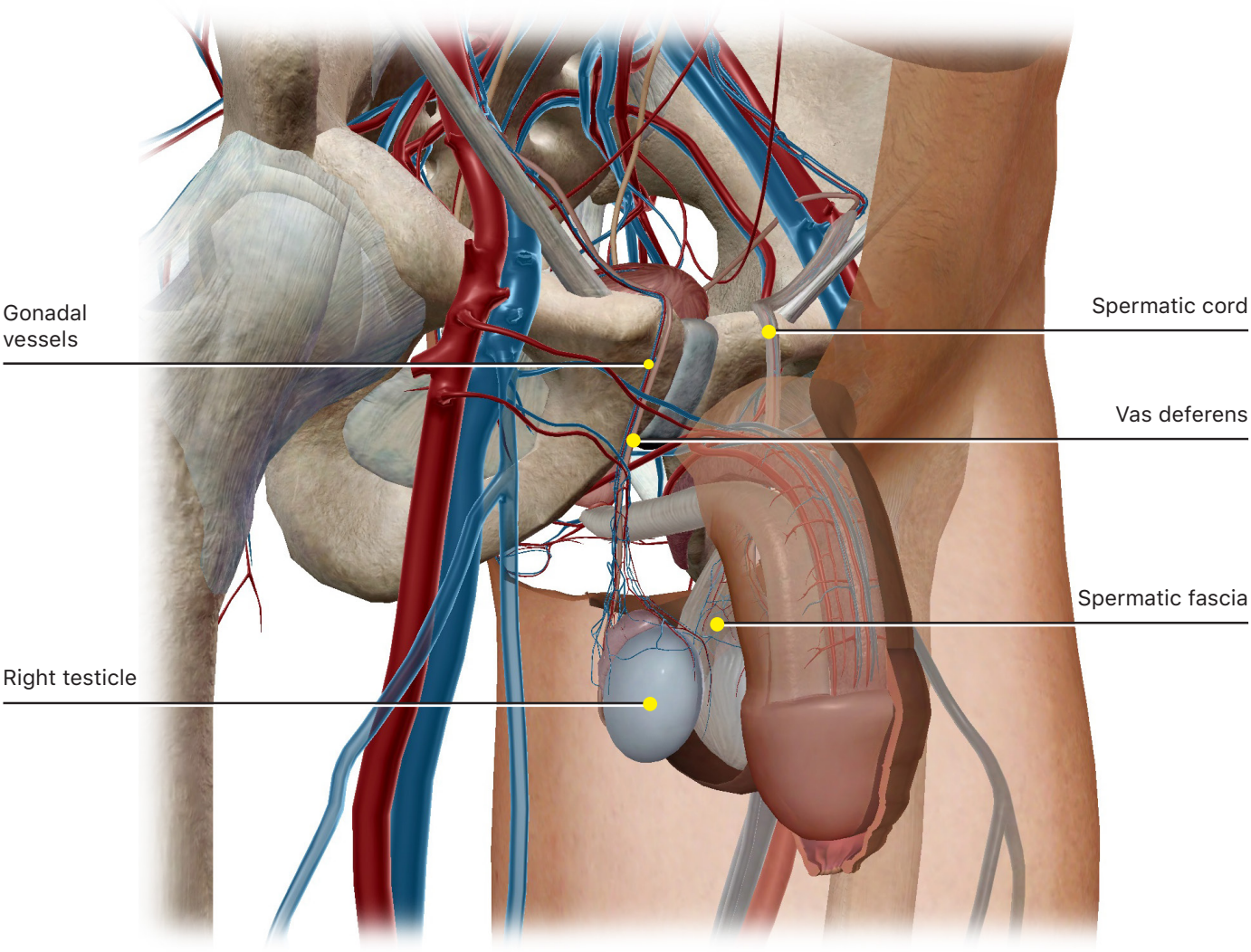


4. Rotate the view so you can see the paired **seminal vesicles** attached to the posterior part of the bladder above the prostate.

5. Locate the bottom of the prostate and note how it attaches to the penis. Zoom in and find the small paired **bulbourethral (Cowper's) glands**. The bulbourethral glands, the prostate, and the seminal vesicles are **accessory glands** of the male reproductive system.

TIME TO PRACTICE!
SEARCH FOR AND TAKE THE FOLLOWING REPRODUCTIVE SYSTEM QUIZZES:
OVERVIEW, REPRO. (M) AND EXTERNAL GENITALIA (M)

B. Male Reproductive System: Testicles and Spermatic Cords



1. Open the Reproductive System View "Testicles (M)." Select the right spermatic fascia and hide it. Next, select the right testicle (testis) and read the definition in the content box.

a. What is the primary purpose of the testes?

b. Testes are the _____, the **primary male sex organs**.

c. What are **gametes**?

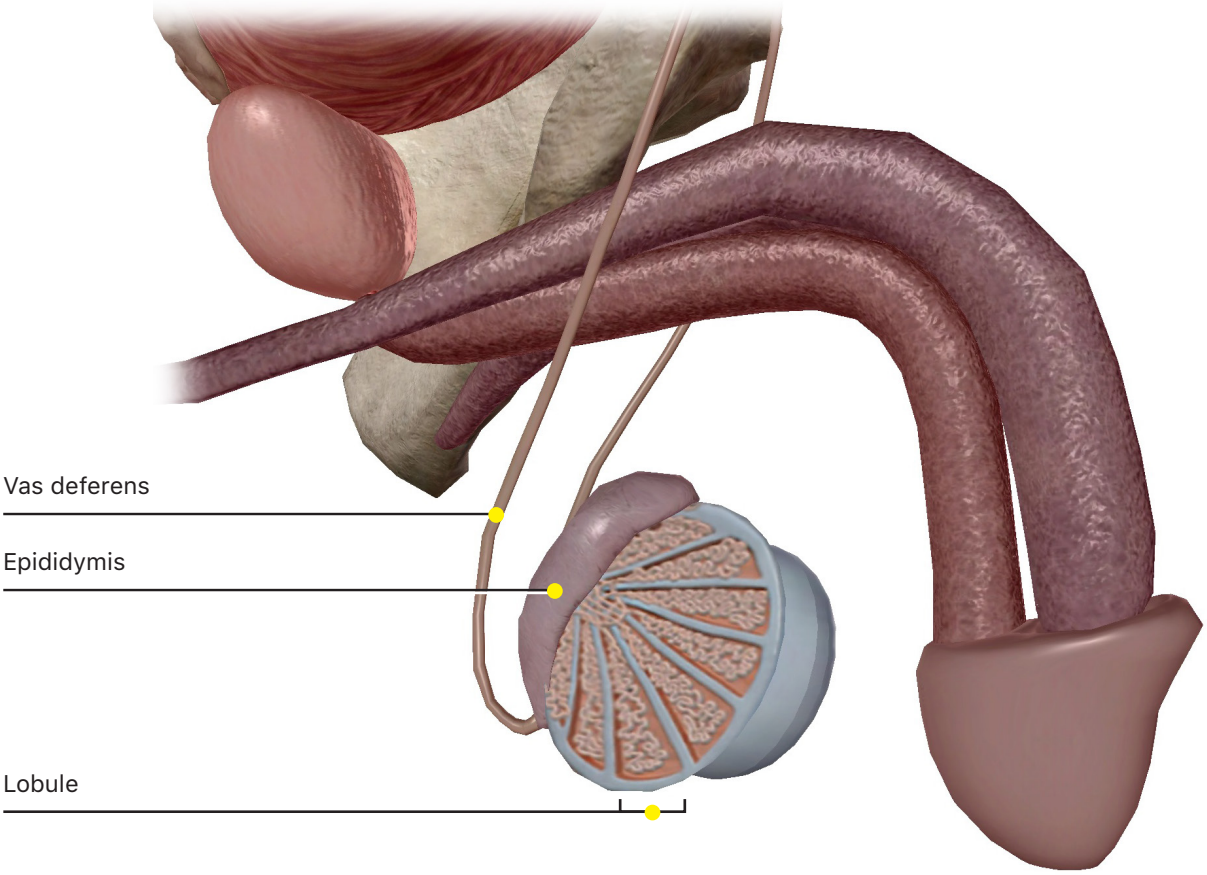
d. What is the name for male gametes?

e. Testes also secrete _____, a hormone important in the development of male characteristics.

2. Refresh the model and use the Systems Tray to hide the skin once more. Look at the sheaths formed by the spermatic fascia that enter the pelvis via the **inguinal canal**.

a. What are these sheaths called?

b. What is carried inside these sheaths?



3. Open the Reproductive System View "Testicle Section (M)." Note the **lobules** formed by connective tissue inside the testis.

a. What are contained in these lobules?

4. Sperm cells develop inside these tubules from puberty throughout a man's life.

a. The male sex cells, sperm, contribute _____ the genetic information required to form an embryo.

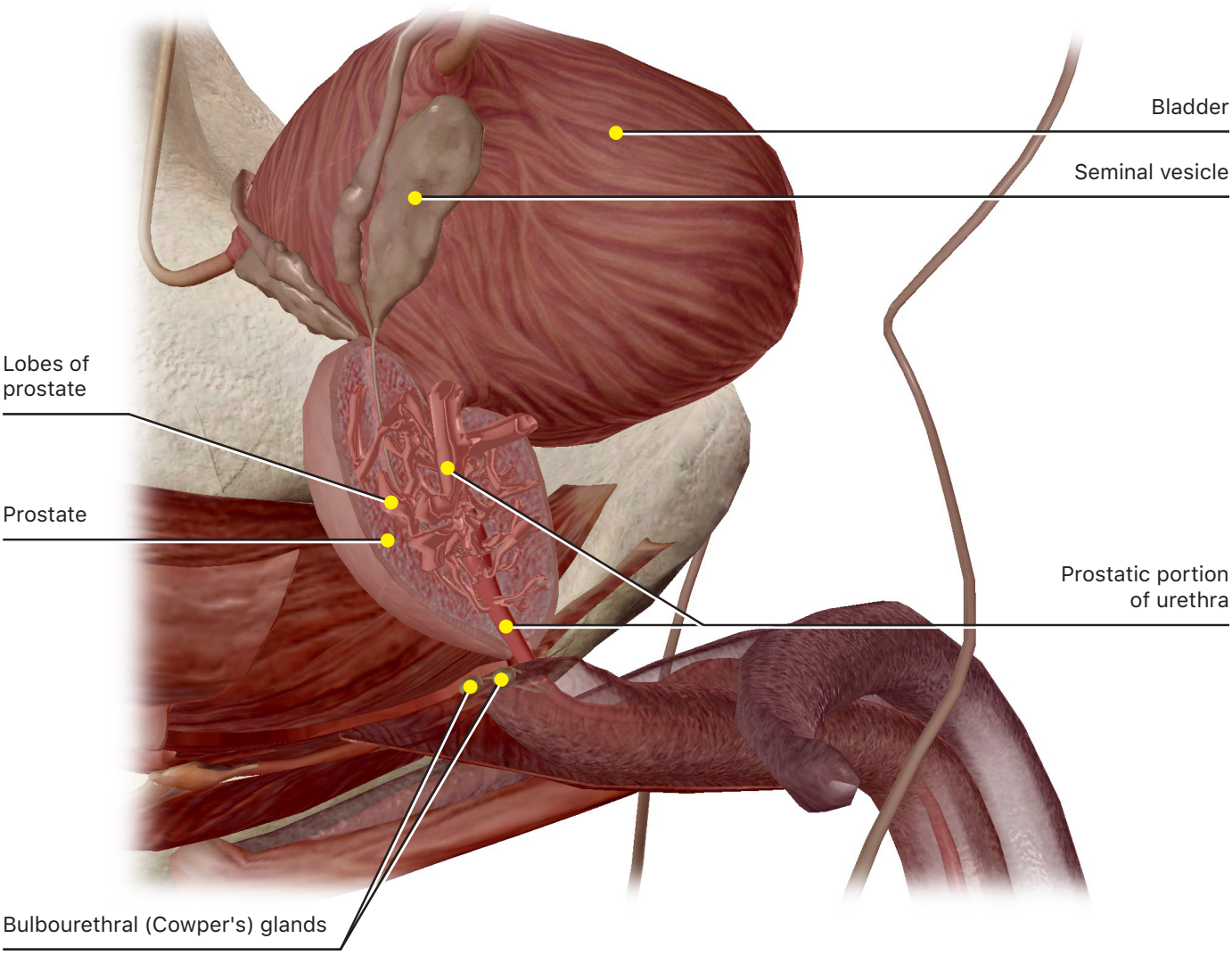
5. Select the right **epididymis**, the small banana-shaped gland attached to the posterior region of each testis. Read the definition and answer the following questions.

a. The epididymis is divided into three regions: the _____, the _____, and the _____.

b. The epididymis collects _____ from the seminiferous tubules.

c. Sperm cells remain in the epididymis for two to three months and, as they mature there, they acquire the ability to swim and to fertilize an egg. After they leave the epididymis, sperm enter the _____.

C. Male Reproductive System: Vas Deferens, Seminal Vesicles, and the Prostate Gland



1. Open the Reproductive System View "Prostate (M)." Select one of the vas deferens and follow its path to the prostate. Rotate the model in order to look at the posterior side of the prostate. Select the prostate and read the definition in order to answer the following questions.

    a. Accessory glands add fluids to the sperm to form **seminal fluid**, which is **ejaculated** from the urethra during sexual activity. The prostate is one of the **accessory glands**, which are glands that contribute to the fluid containing sperm, of the male reproductive system. Fluid from the prostate enters into the **prostatic portion of the** _____.

    b. Prostate fluid contributes _____ and other substances to semen.

c. Select the right side of the prostate and hide it. Select any of the lobes of the prostate. These lobes contain _____ tissue.

2. Locate the urethra, the tube that drains from the urinary bladder into the penis. Note that it passes directly through the prostate. The portion of the urethra that passes through the prostate is called the _____.

3. Select the prostate and then choose the pathology icon in the popup window (the stethoscope) to see common diseases associated with the prostate. How could an enlarged prostate affect urination?

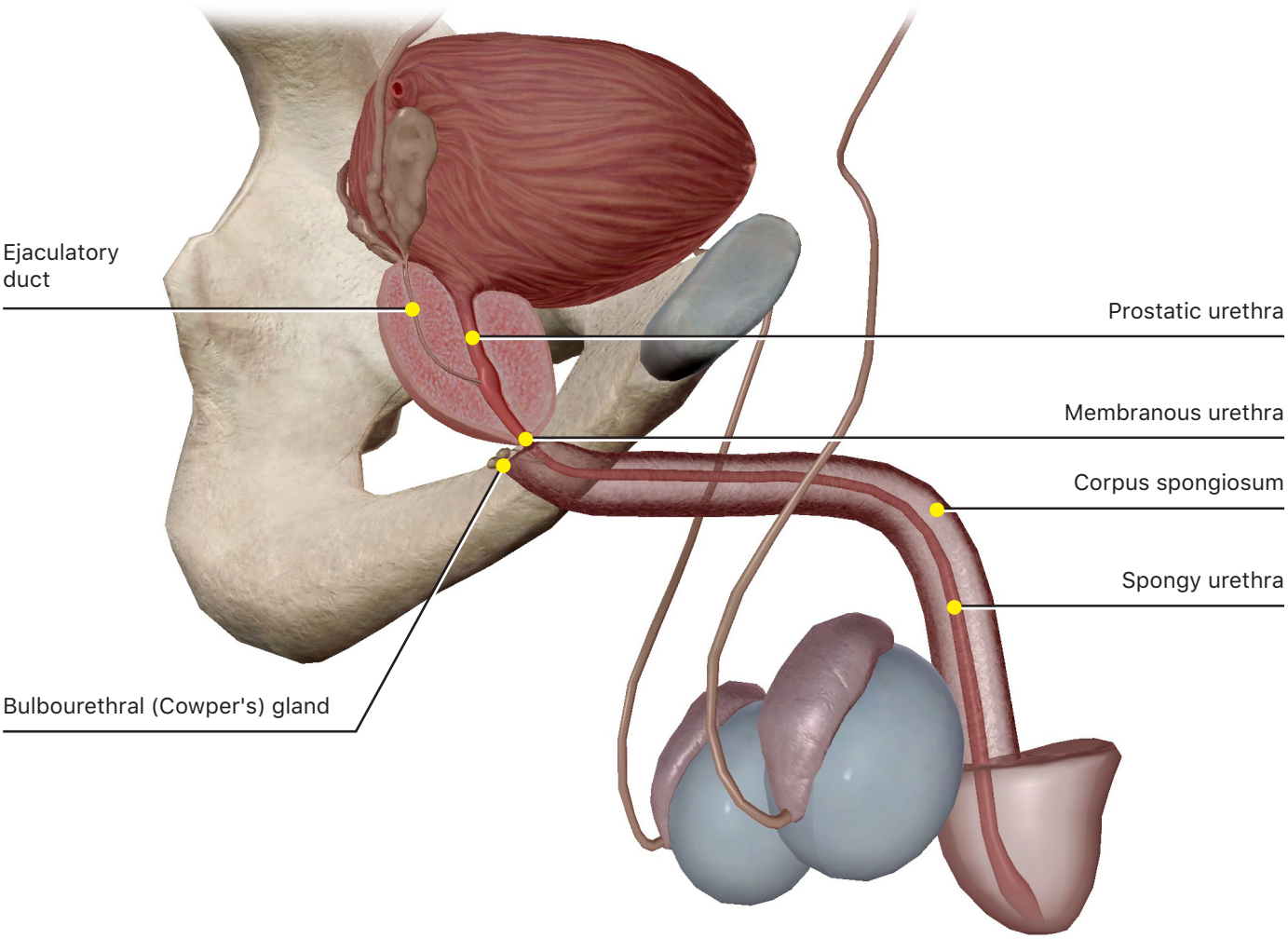
4. Locate the **seminal vesicles**, two glands attached to the posterior portion of the urinary bladder. Locate the spot where the seminal vesicles join with the vas deferens as they enter the prostate.

a. What substances are secreted by the seminal vesicles?

b. What proportion of the seminal fluid is contributed by the seminal vesicles?

c. The vas deferens and the seminal vesicle ducts join to become the _____.

D. Male Reproductive System: Ejaculatory Ducts and the Bulbourethral Glands



1. Open the Reproductive System View "Ducts (M)." Locate the **ejaculatory duct**, which carries sperm from the vas deferens, along with seminal vesicle secretions, through the prostate to the **prostatic urethra**.

2. Note that the first part of the prostatic urethra carries only urine from the bladder. After the junction of the ejaculatory duct, the urethra is responsible for carrying both sperm and urine (at different times).

3. Choose the portion of the urethra that lies between the prostate and the penis.

    a. What is this called?

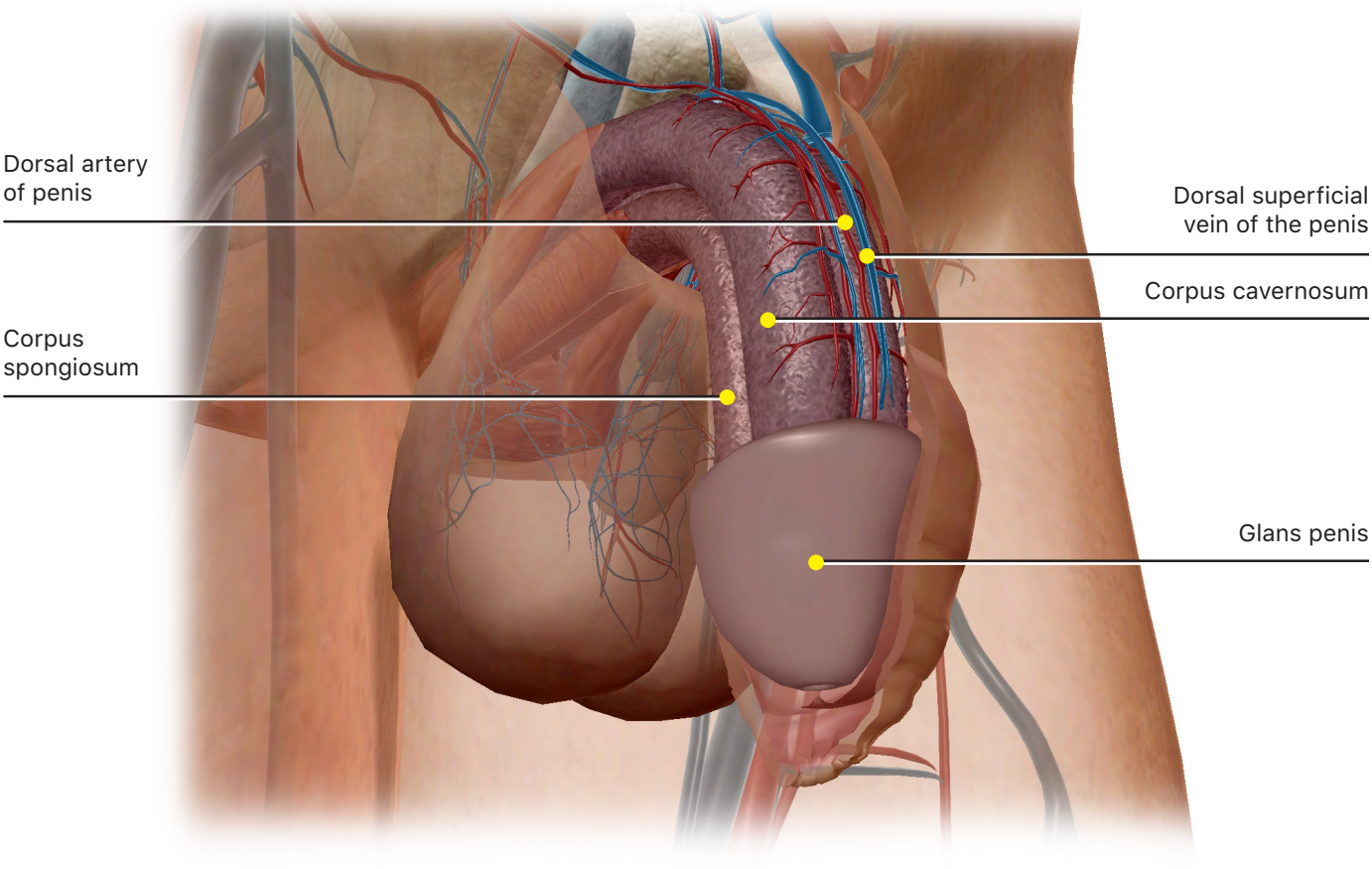
4. Near the **membranous urethra** are the two paired **bulbourethral (Cowper's) glands**. Ducts from these glands join the urethra below the membranous urethra at the proximal portion of the **spongy portion of the urethra (the spongy urethra)**.

a. What do the bulbourethral glands secrete?

b. What is the function of this secretion?

5. Select the **corpus spongiosum** of the penis and hide it. Select the spongy urethra and follow it to the slightly enlarged ending where the urethra ends externally at the end of the glans penis.

E. Male Reproductive System: Penis



1. Open the Reproductive System View "Penis (M)." Note the skin (faded) that covers the penis. Select the part of the skin that covers the glans penis. Part of it is removed during a procedure called circumcision.

    a. What is it called?

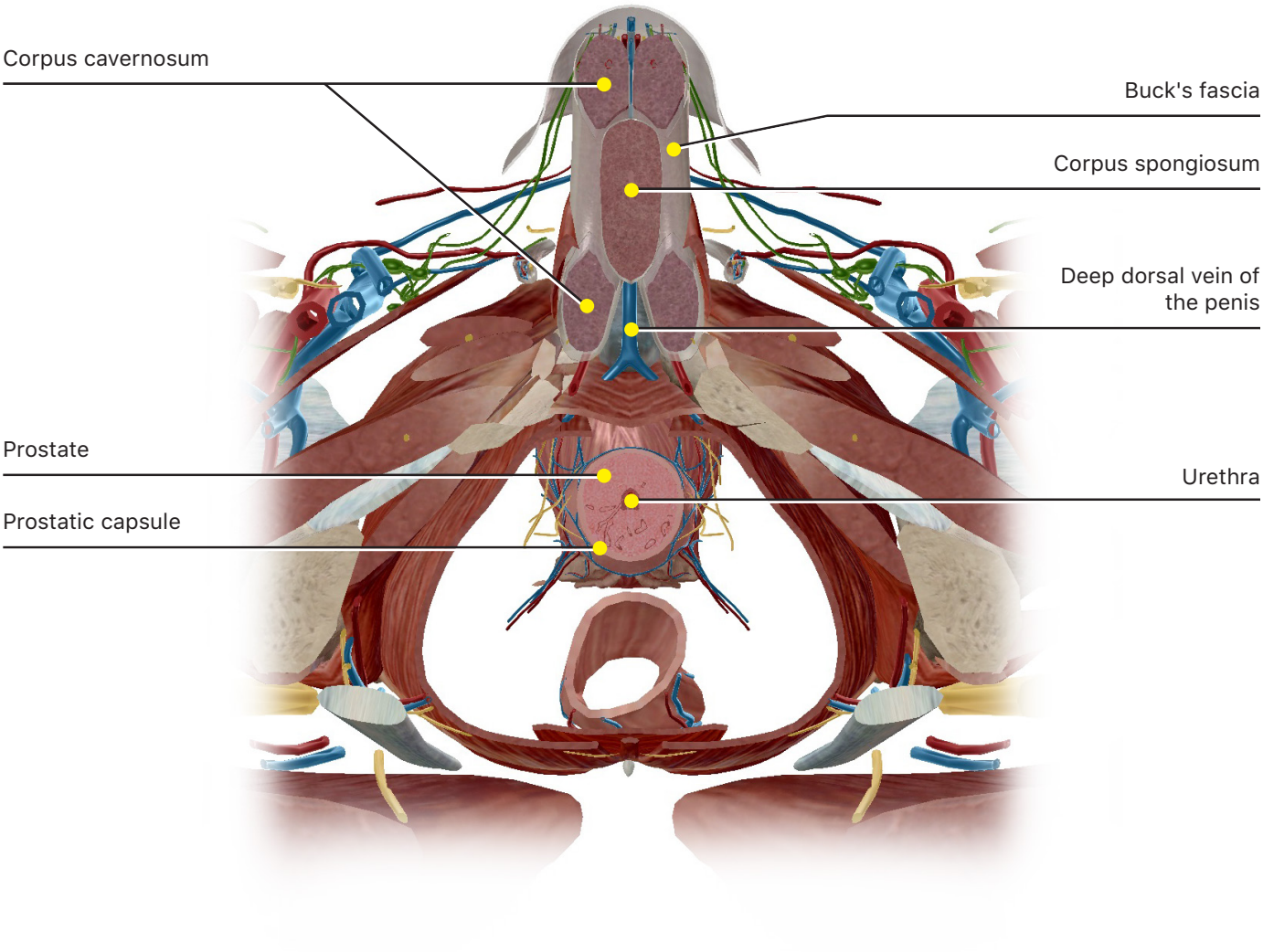
2. In the Systems Tray, deselect the skin icon to hide the skin from the view. Locate the **glans penis**, the paired **corpus cavernosum**, and the **corpus spongiosum**. The latter two structures are made of spongy tissue that fills with blood to cause the penis to become erect.

3. In the Systems Tray, deselect the muscular (the arm) and skeletal (the skull) system icons to hide them from the view. Next, select the circulatory system icon (the heart) to add the circulatory structures to the view. Locate the **dorsal superficial vein of the penis** and the **dorsal artery of the penis**. Next locate the paired **deep arteries of the penis**. The spongy portions of the penis become engorged with blood from these arteries during sexual arousal and the veins drain the blood after ejaculation.

4. Rotate the model so that you can see where the urethra exits the body at the tip of the glans penis.

F. Pelvis Cross Section

Cross Section "Pelvis (Symphysis) (M)"



Search for "pelvis" and open the Cross Section "Pelvis (Symphysis) (M)." Locate the following:

a. Corpus cavernosum

b. Corpus spongiosum

c. Buck's fascia

d. Deep dorsal vein of the penis

e. Prostate

f. Prostate capsule

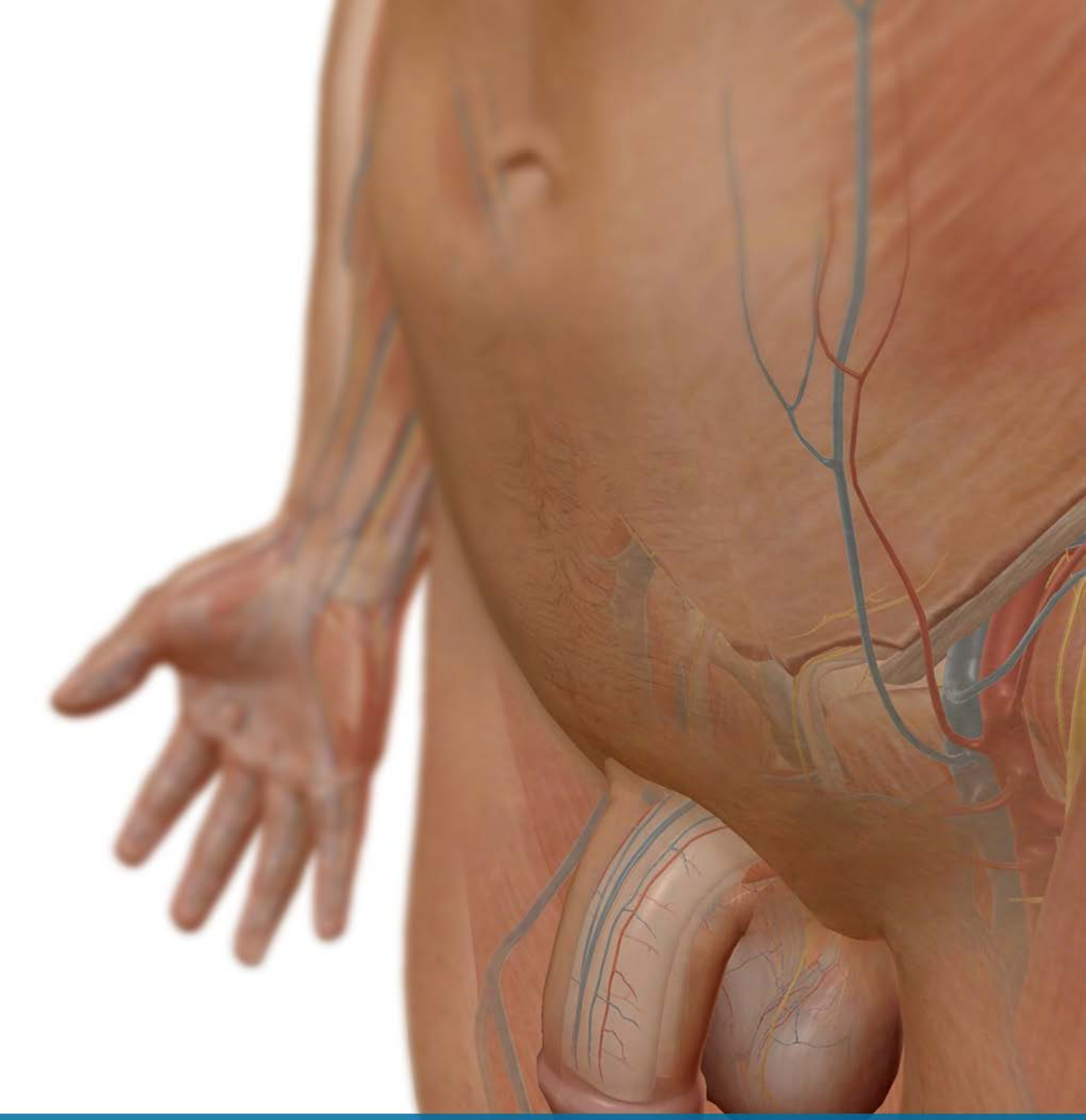
g. Urethra

PUTTING IT ALL TOGETHER

Name the structures through which sperm passes, from the testis to the glans penis.

List the accessory glands that contribute fluid to seminal fluid.

TIME TO PRACTICE!
SEARCH FOR AND TAKE THE FOLLOWING REPRODUCTIVE SYSTEM QUIZZES:
INTERNAL GENITALIA (M) AND REPRO. DUCTS (M)



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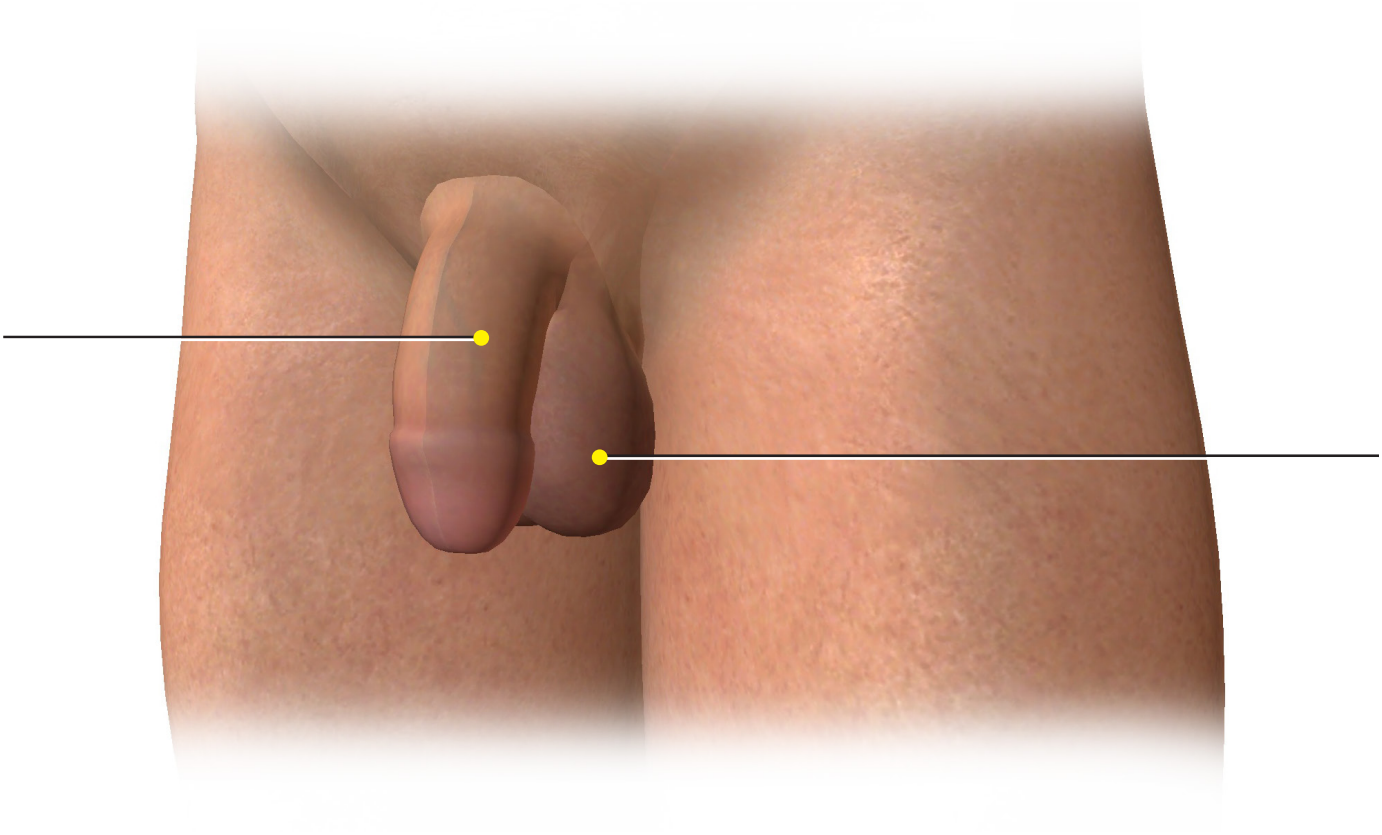
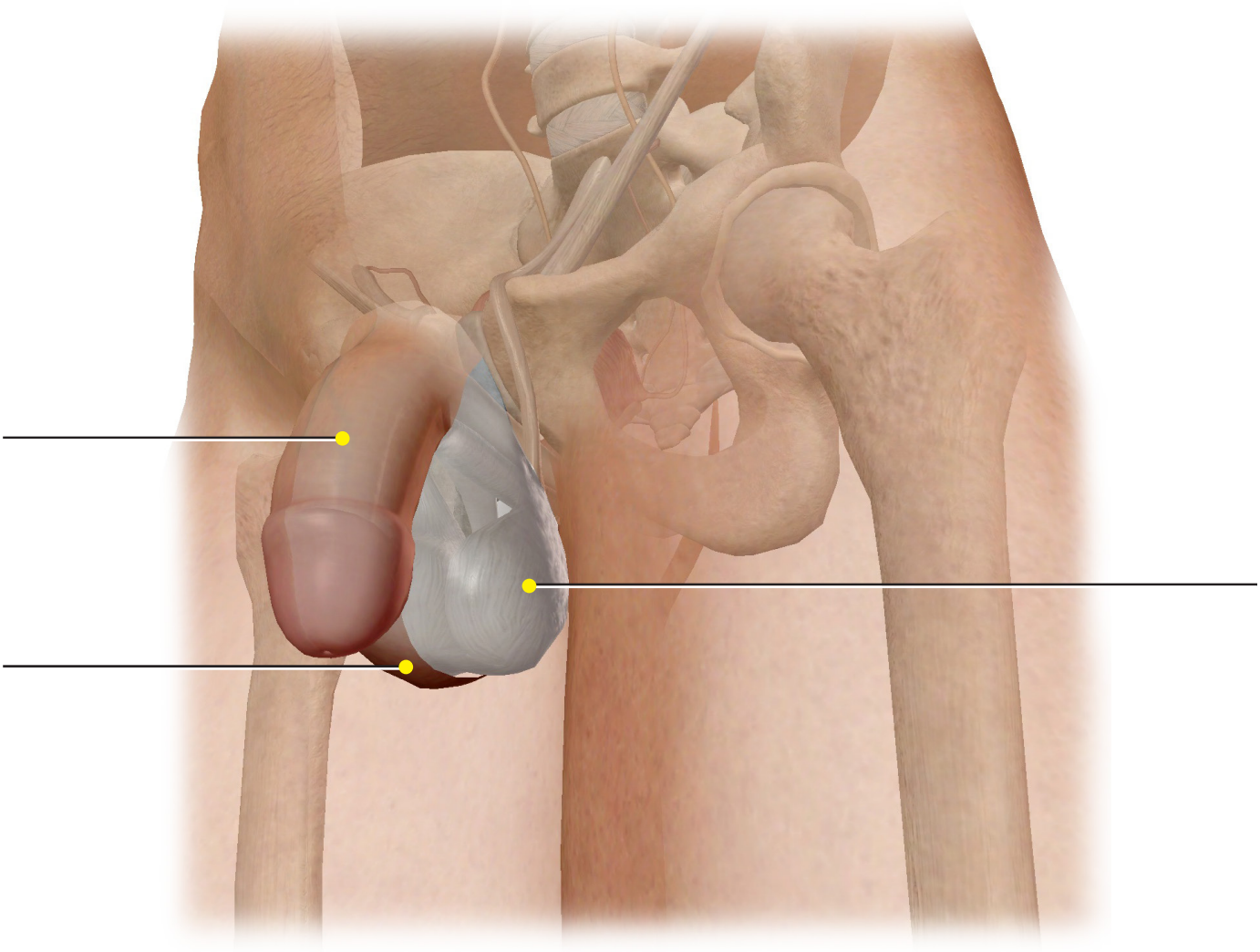
Student Practice

Label the structures in the following figures.

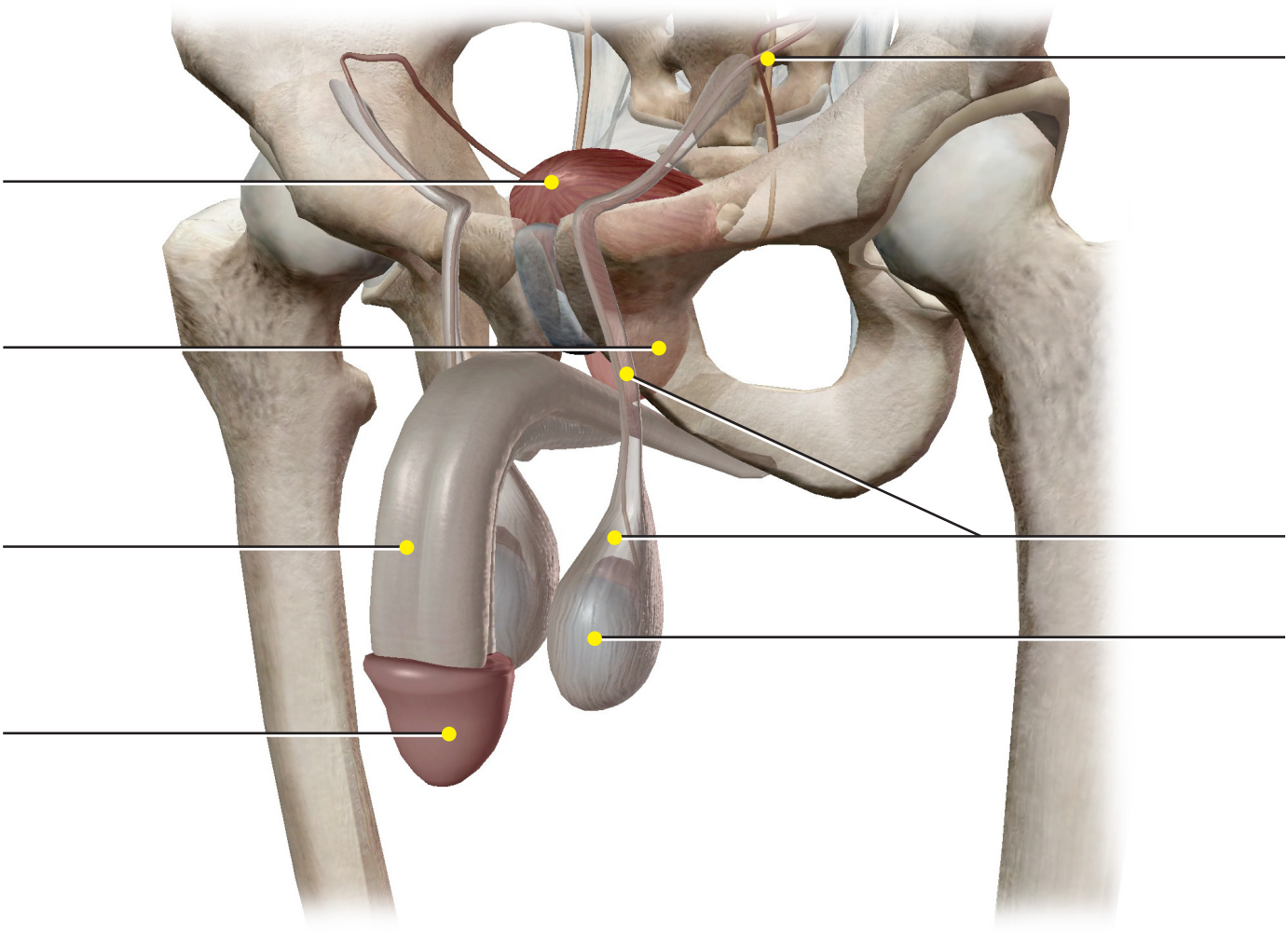
Source: Reproductive System View "Reproductive System (M)"



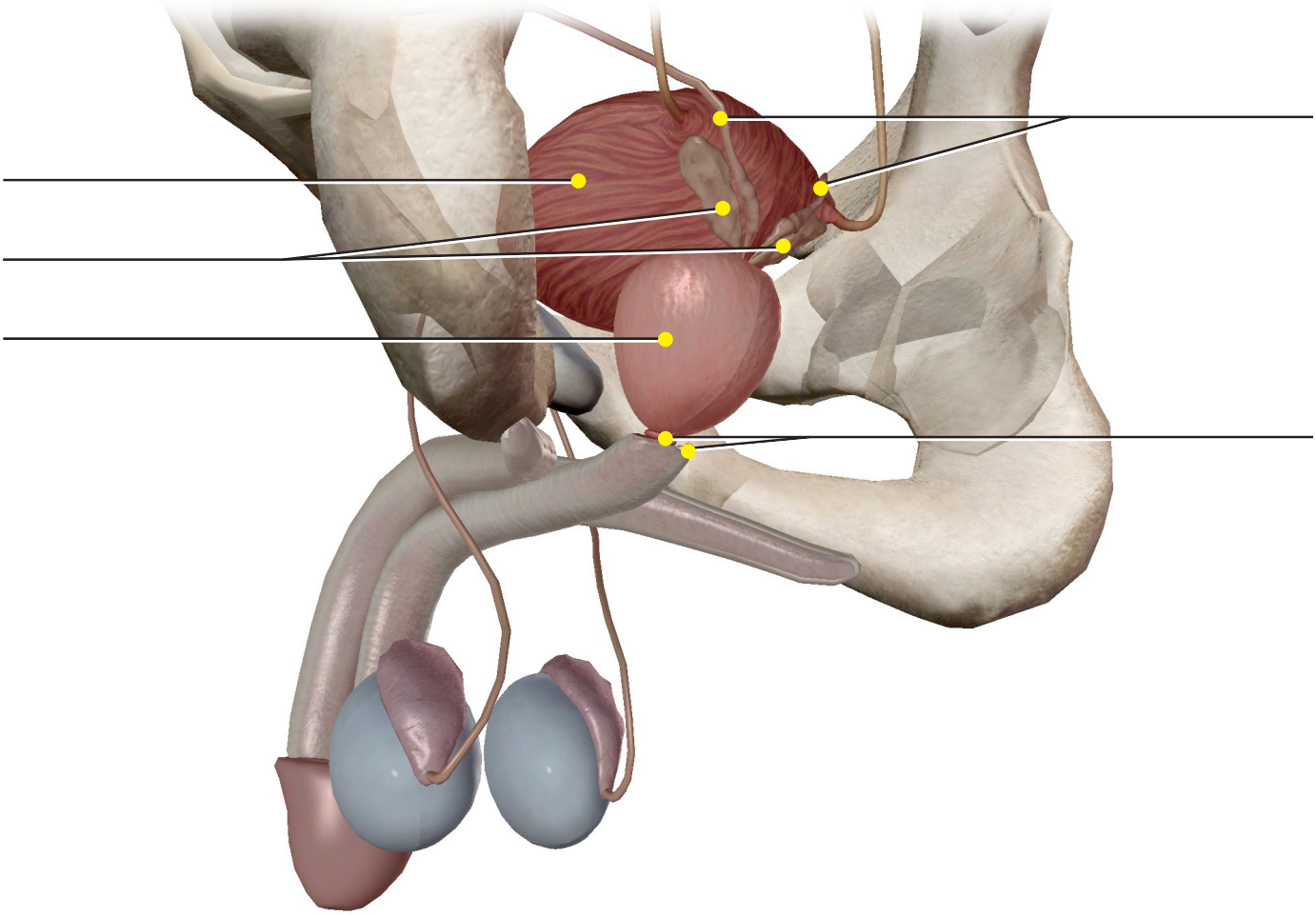
Source: Reproductive System View "Reproductive System (M)"



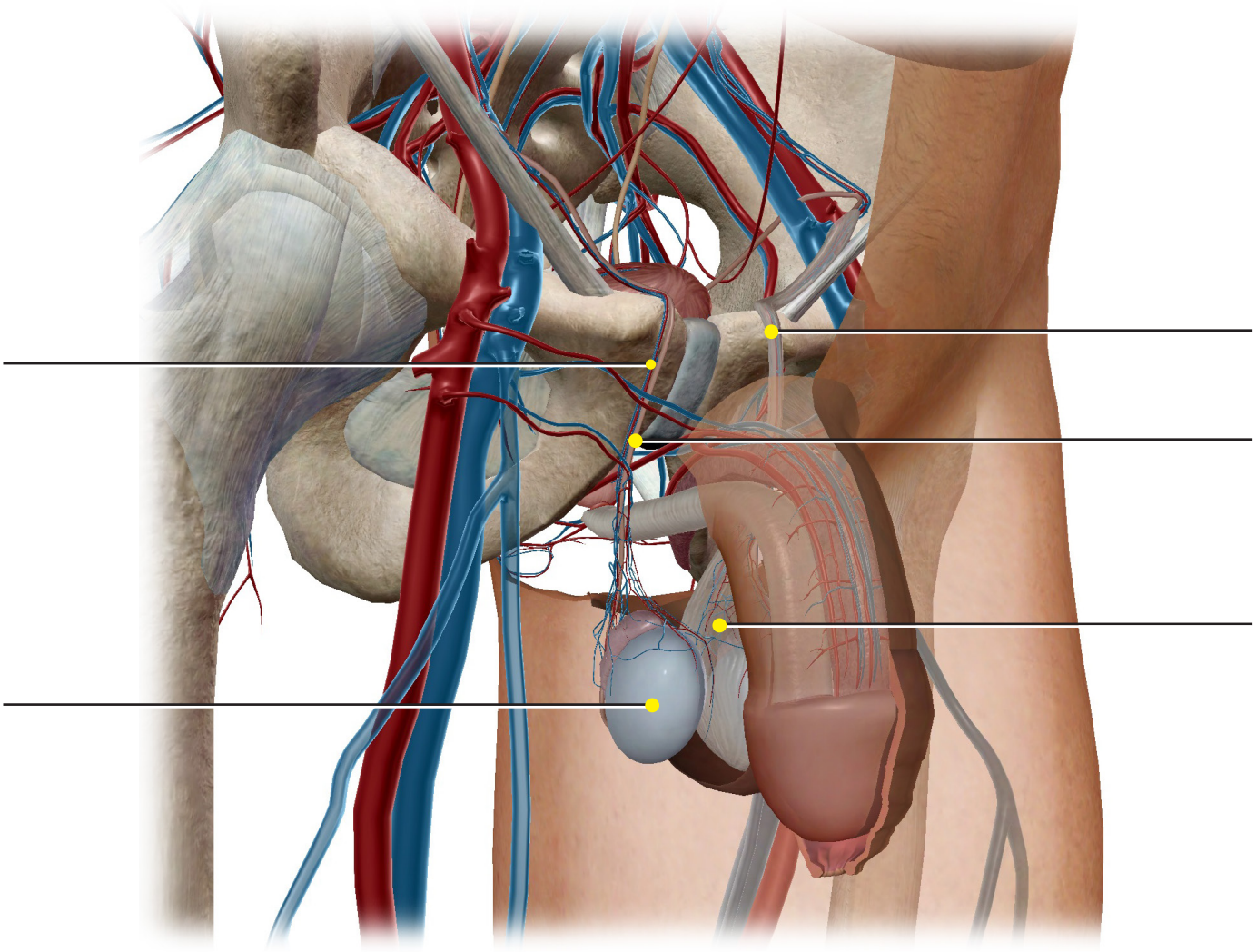
Source: Reproductive System View "Reproductive System (M)"



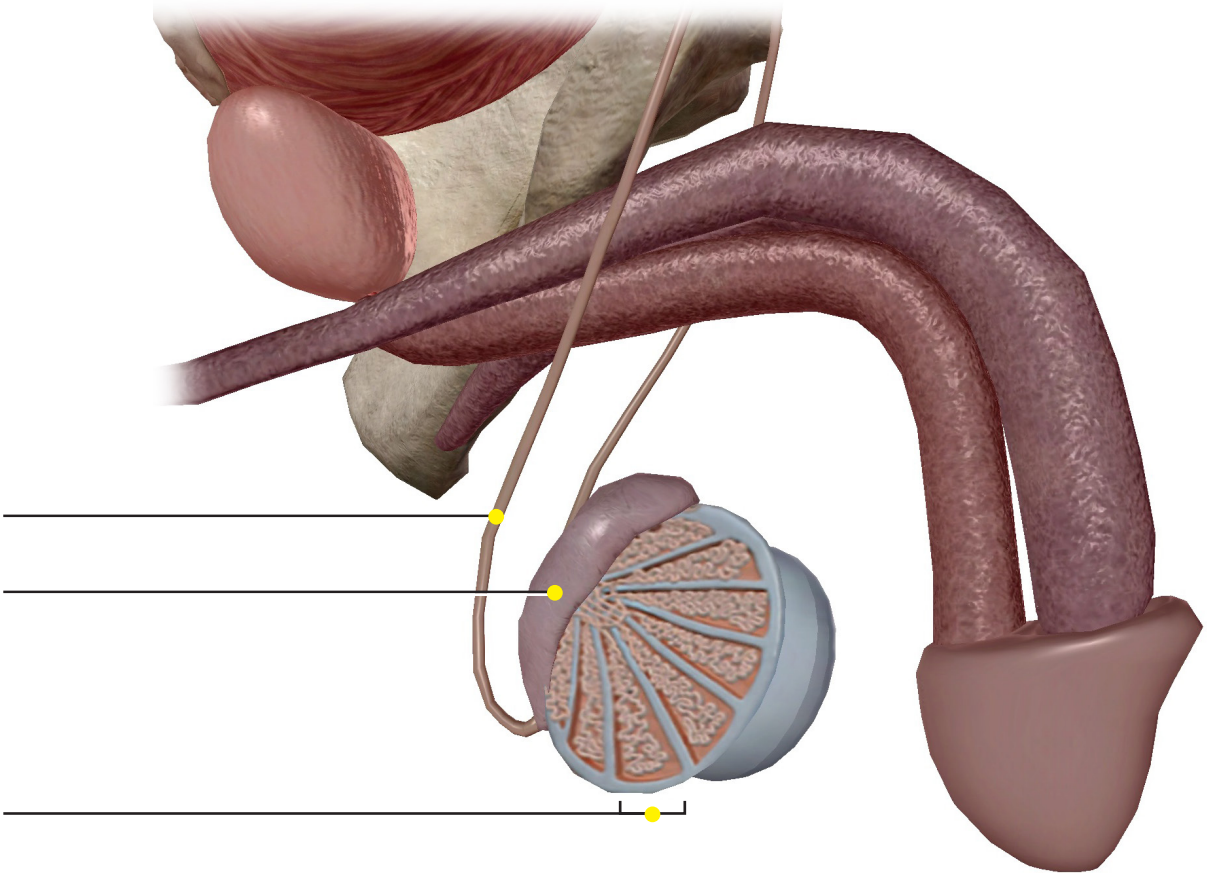
Source: Reproductive System View "Reproductive System (M)"



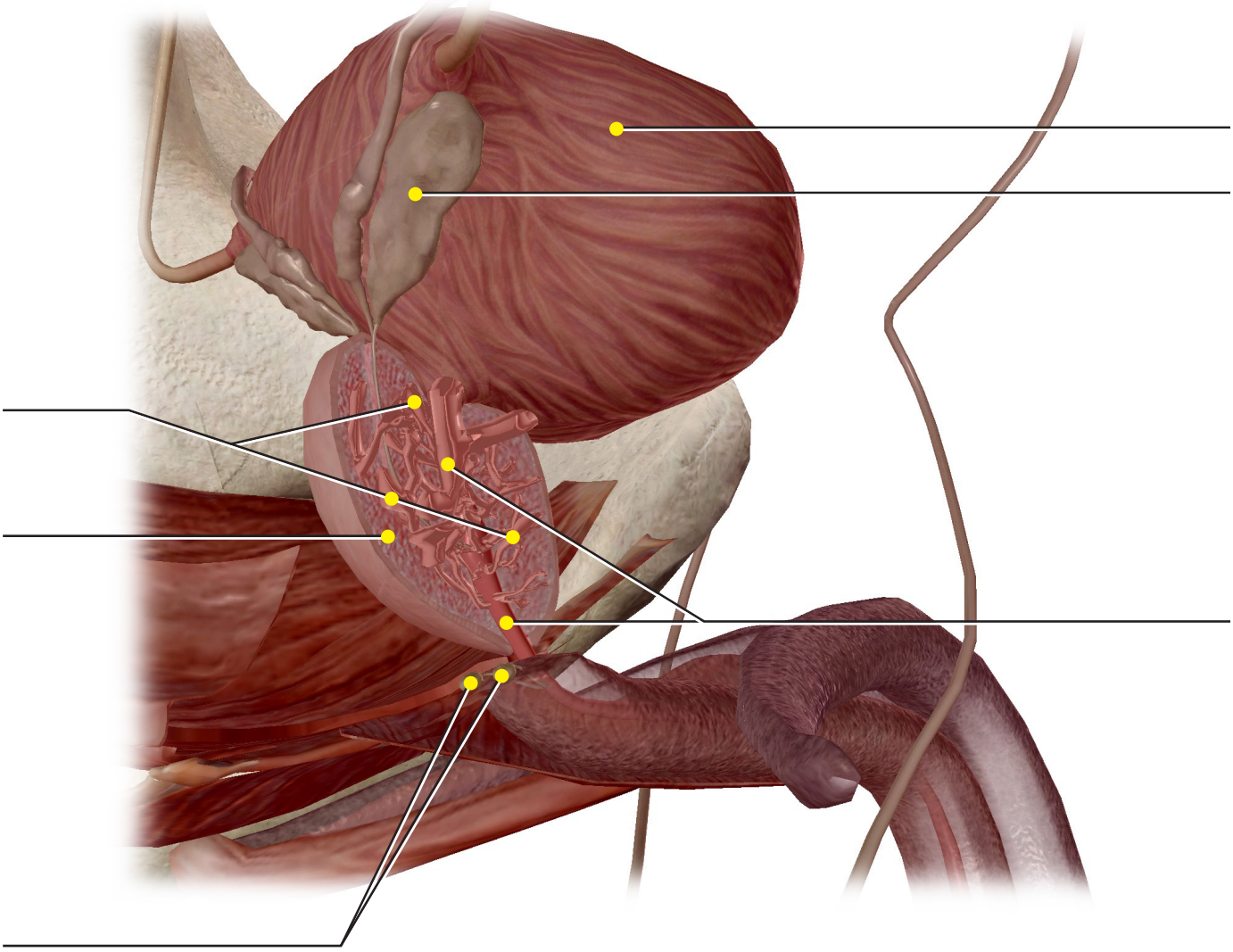
Source: Reproductive System View "Testicles (M)"



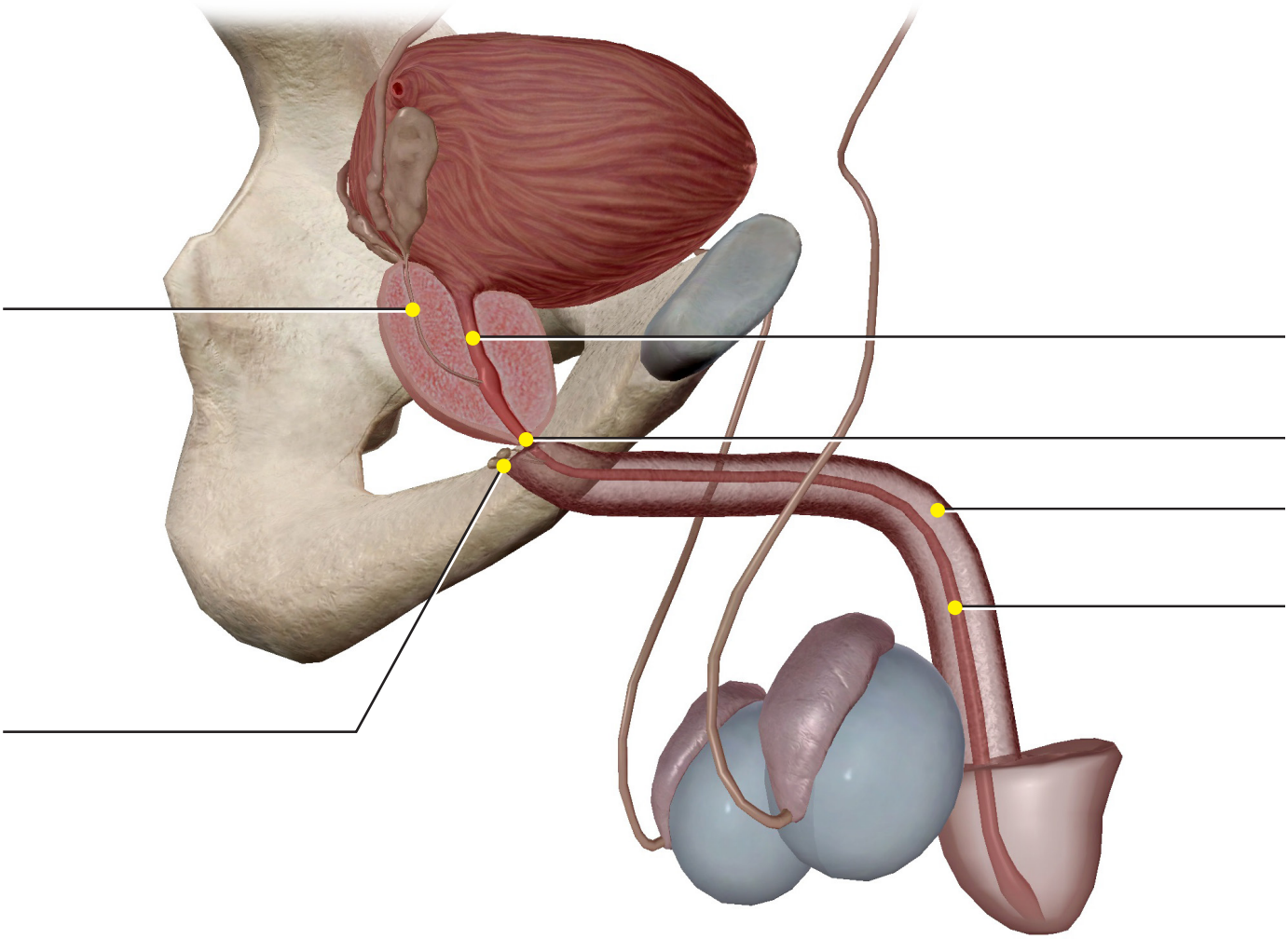
Source: Reproductive System View "Testicle Section (M)"



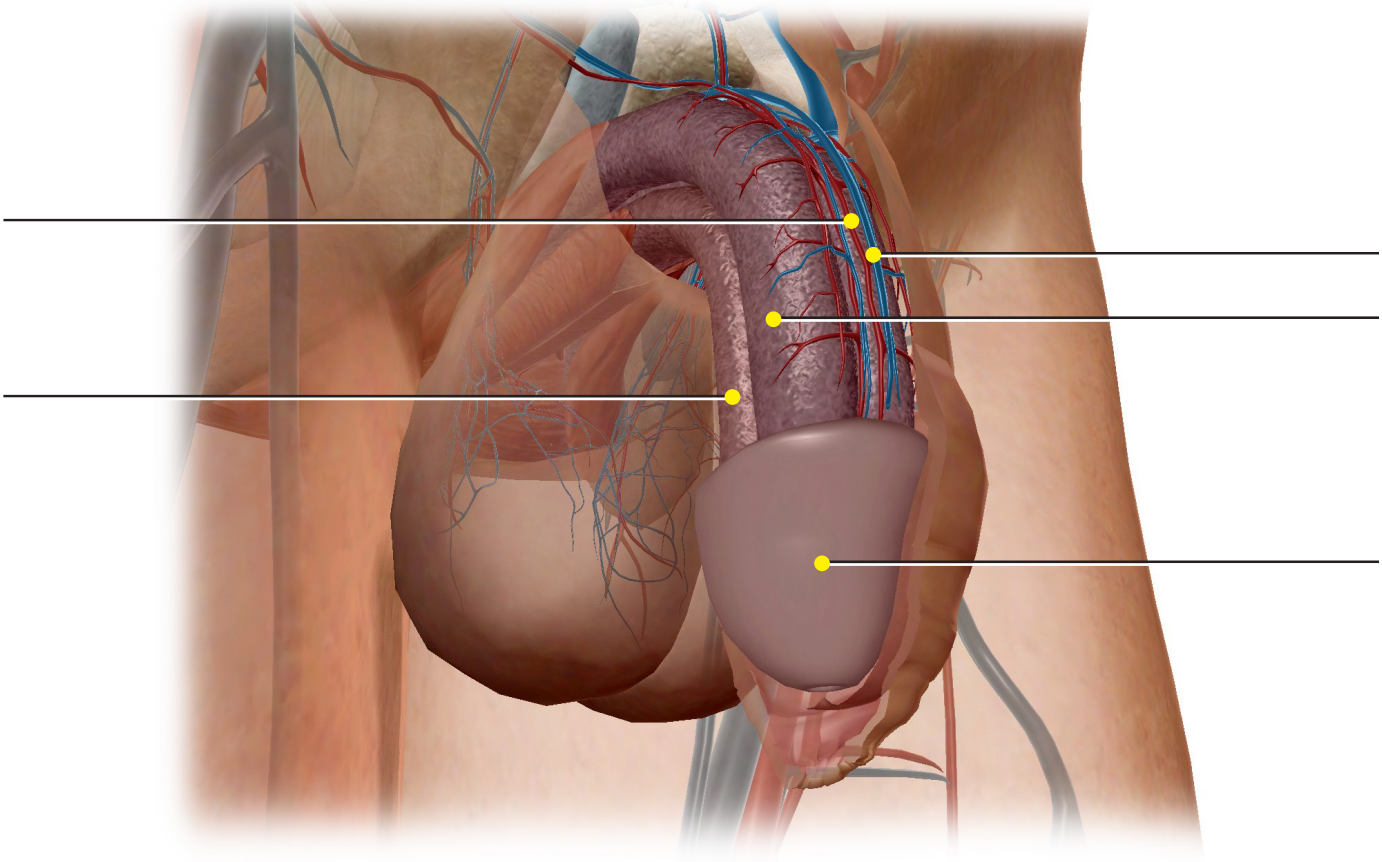
Source: Reproductive System View "Prostate (M)"



Source: Reproductive System View "Ducts (M)"



Source: Reproductive System View "Penis (M)"



Source: Cross Section "Pelvis (Symphysis) (M)"