MCM – SELLE AN-ATOMICA™
BOX 2424
FAIRFIELD, CA 94533
(707) 372-6540

INFO@MCMWIN.COM

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Selle An-Atomica & Human Anatomy

Benefits provided by Selle An-Atomica™ include several unique properties not available with any other type of construction:

1. The suspended, molded leather construction conforms to the asymmetries of the pelvic basin boney points. These attributes are unlike any other saddle construction.
2. Independently moving saddle halves flex in horizontal and vertical planes with each pedal stroke to provide support and motion that is compatible with the pelvis.
3. Special slot shape developments provide essential anatomic relief in a manner that that is free of any tell tale contact zone.

"For the male cyclist, compression on the vulnerable scrotal and internal pudendal vessels & nerves and those delicate vessels intertwined with the dependent spermatic cord creates pressure on and interrupts blood flow through them. The outcome is numbness in the genitals, tenderness and bruising in the surrounding soft tissues and exposed bony points and risk of impotence and sterility. For the female cyclist, pressure on the poorly protected external genitalia and exposed boney points create or result in painful contusions. The slit/split Selle An-Atomica™ provides essential anatomic relief and flexible resilient support to male and female anatomy pictured and described.

The flexible fenders of the design provide essential, additional surface area support that spreads the weight bearing load otherwise limited to a narrow anterior to posterior - transverse band through the pelvic basin region. Contrary to its name, the anatomic pelvic basin region is a relatively weak structure. It is not designed to withstand extremes of weight bearing nor is it designed or structured to shield the neurovascular structures within the dependent aspects of the pelvic basin. Selle An-Atomica™ provides an essential area of central pressure relief. It is able to flex superiorly & inferiorly (up & down) independently on the left and right sides and provide internal/external rotation (wing - like flexing) in synchrony with the rider's pedaling actions, sparing him/her progressive insult or permanent injury."

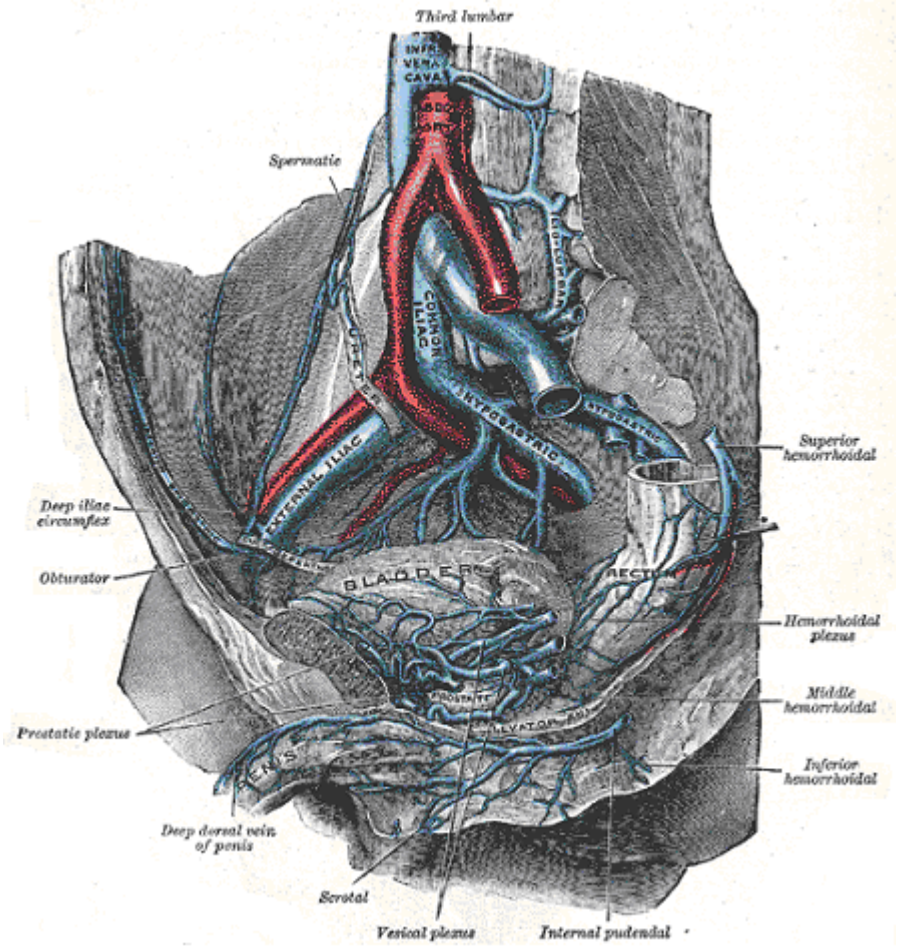


FIG. 585 - The veins of the right half of the male pelvis. (Spalteholz).

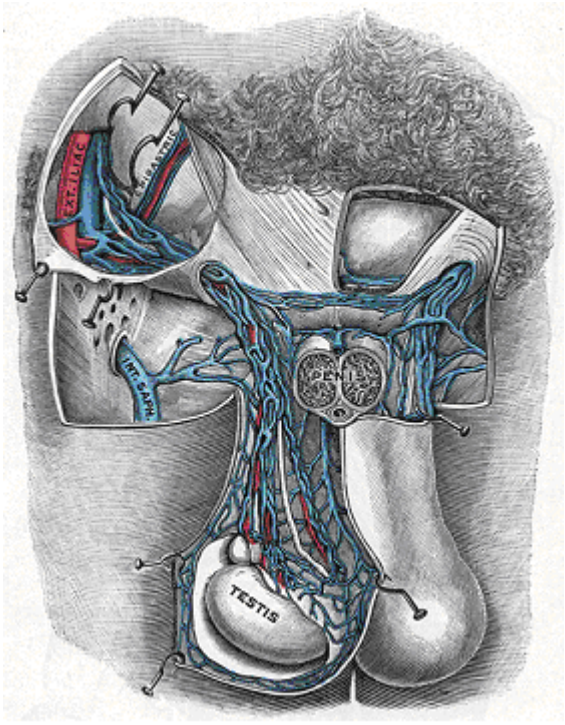


FIG. 590 - Spermatic veins. (Testut.)

Dr. Underhill; “This further illustrates the delicate male anatomic plumbing that is ruined or adversely affected by the average bicycle saddle. Similarly affected female anatomy is illustrated below.”

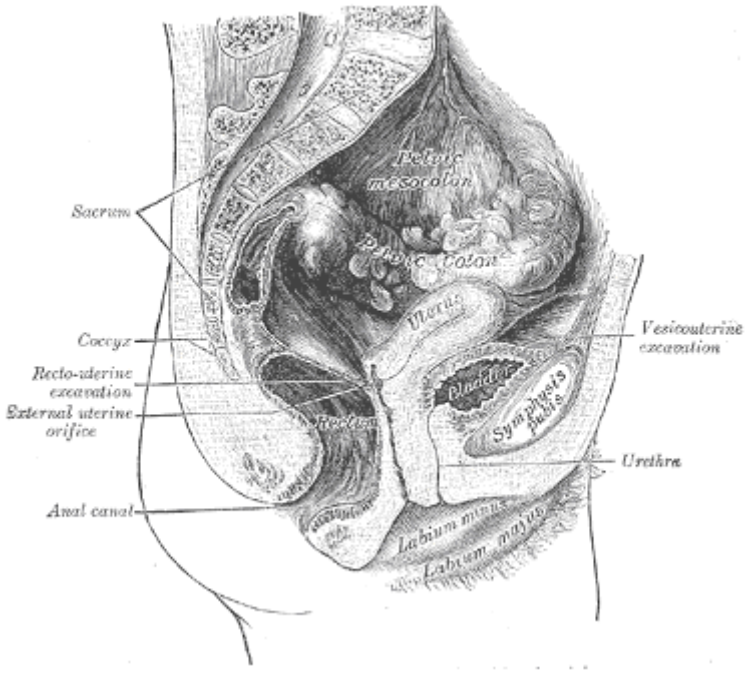


FIG. 1230 - Median sagittal section of female pelvis.

Pertinent primer from *Gray's Anatomy*:

Surface Anatomy of the Perineum

Skin. In the middle line of the posterior part of the perineum and about 4 cm. in front of the tip of the coccyx is the anal orifice. The junction of the mucous membrane of the anal canal with the skin of the perineum is marked by a white line which indicates also the line of contact of the external and internal Sphincters. In the anterior part of the perineum the external genital organs are situated. The skin covering the scrotum is rough and corrugated, but over the penis it is smooth; extending forward from the anus on to the scrotum and penis is a median ridge which indicates the scrotal raphé. In the **female** are seen the skin reduplications forming the labia majora and minora laterally, the frenulum of the labia behind, and the prepuce of the clitoris in front; still more anteriorly is the mons pubis.

Bones.—In the antero-lateral boundaries of the perineum, the whole outline of the pubic arch can be readily traced ending in the ischial tuberosities. Behind in the middle line is the tip of the coccyx.

Muscles and Ligaments.—The margin of the **Glutæus maximus** forms the postero-lateral boundary, and in thin subjects, by pressing deeply, the sacrotuberous ligament can be felt through the muscle. The only other muscles influencing surface form are the **Ischiocavernosus** covering the crus penis, which lies on the side of the pubic arch, and the **Sphincter ani externus,** which, in action, closes the anal orifice and causes a puckering of the skin around it.

Surface Markings of the Perineum

A line drawn transversely across in front of the ischial tuberosities divides the perineum into a posterior or rectal, and an anterior or urogenital, triangle. This line passes through the central point of the perineum, which is situated about 2.5 cm. in front of the center of the anal aperture or, in the male, midway between the anus and the reflection of the skin on to the scrotum.

Rectum and Anal Canal.—A finger inserted through the anal orifice is grasped by the Sphincter ani externus, passes into the region of the Sphincter ani internus, and higher up encounters the resistance of the Puborectalis; beyond this it may reach the lowest of the transverse rectal folds. In front, the urethral bulb and membranous part of the urethra are first identified, and then about 4 cm. above the anal orifice the prostate is felt; beyond this the vesiculæ seminales, if enlarged, and the fundus of the bladder, when distended, can be

recognized. On either side is the ischiorectal fossa. Behind are the anococcygeal body, the pelvic surfaces of the coccyx and lower end of the sacrum, and the sacrospinous ligaments.

In the female the posterior wall and fornix of the vagina, and the cervix and body of the uterus can be felt in front, while somewhat laterally the ovaries can just be reached.

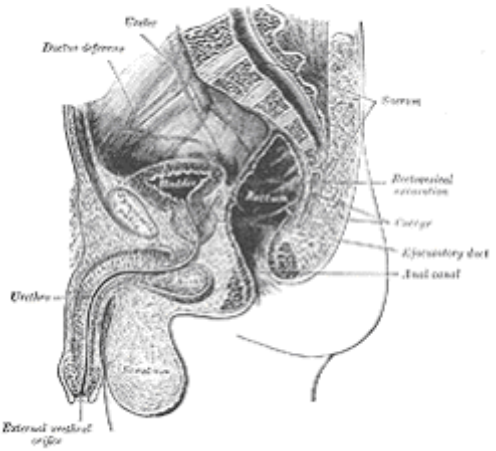


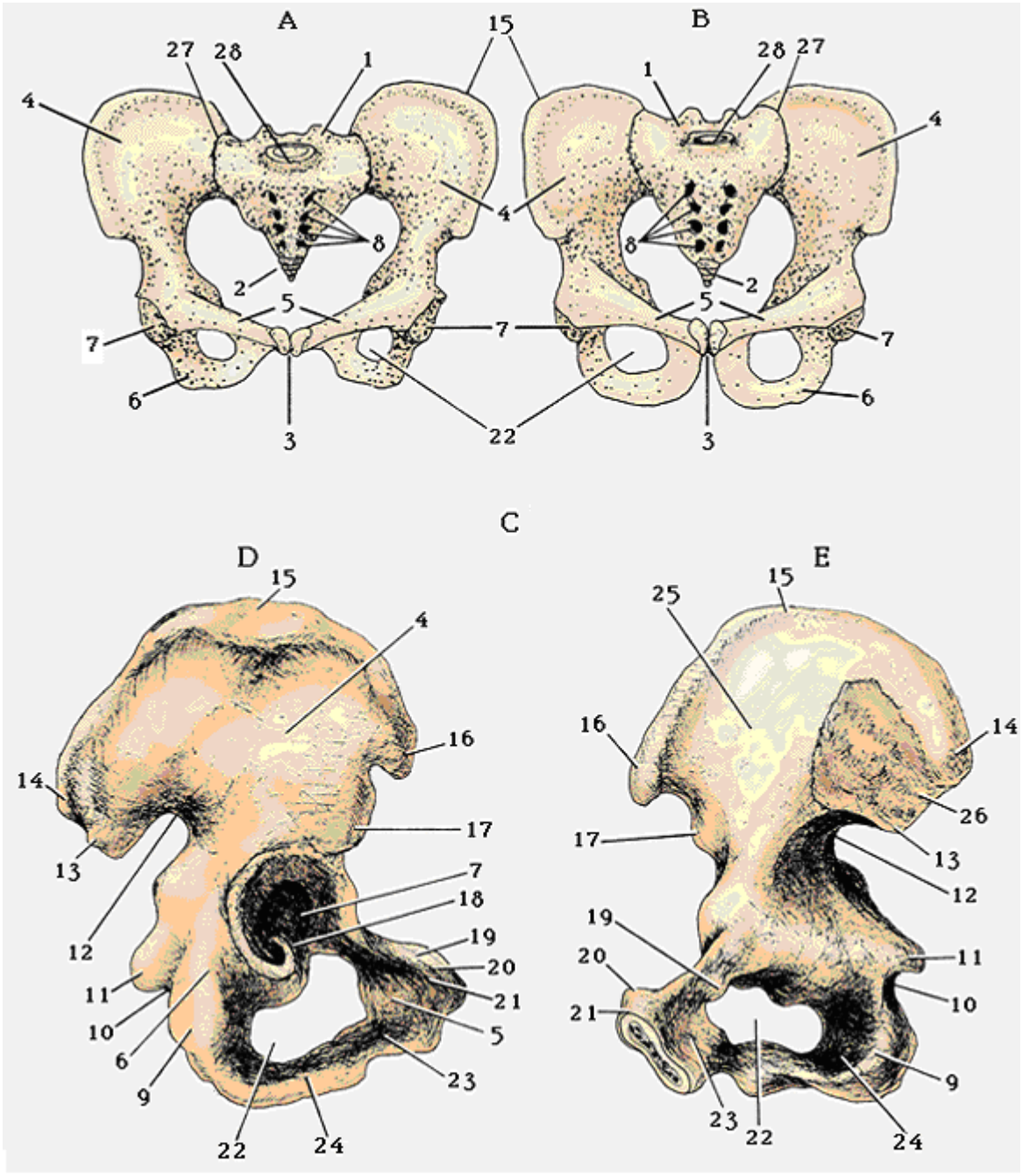
FIG. 1228 - Median sagittal section of male pelvis.

Male Urogenital Organs. The **corpora cavernosa penis** can be followed backward to the crura which are attached to the sides of the pubic arch. The **glans penis,** covered by the prepuce, and the external urethral orifice can be examined, and the course of the urethra traced along the under surface of the penis to the bulb which is situated immediately in front of the central point of the perineum. Through the wall of the **scrotum** on either side the **testis** can be palpated; it lies toward the back of the scrotum, and along its posterior border the **epididymis** can be felt; passing upward along the medial side of the epididymis is the **spermatic cord,** which can be traced upward to the subcutaneous inguinal ring.

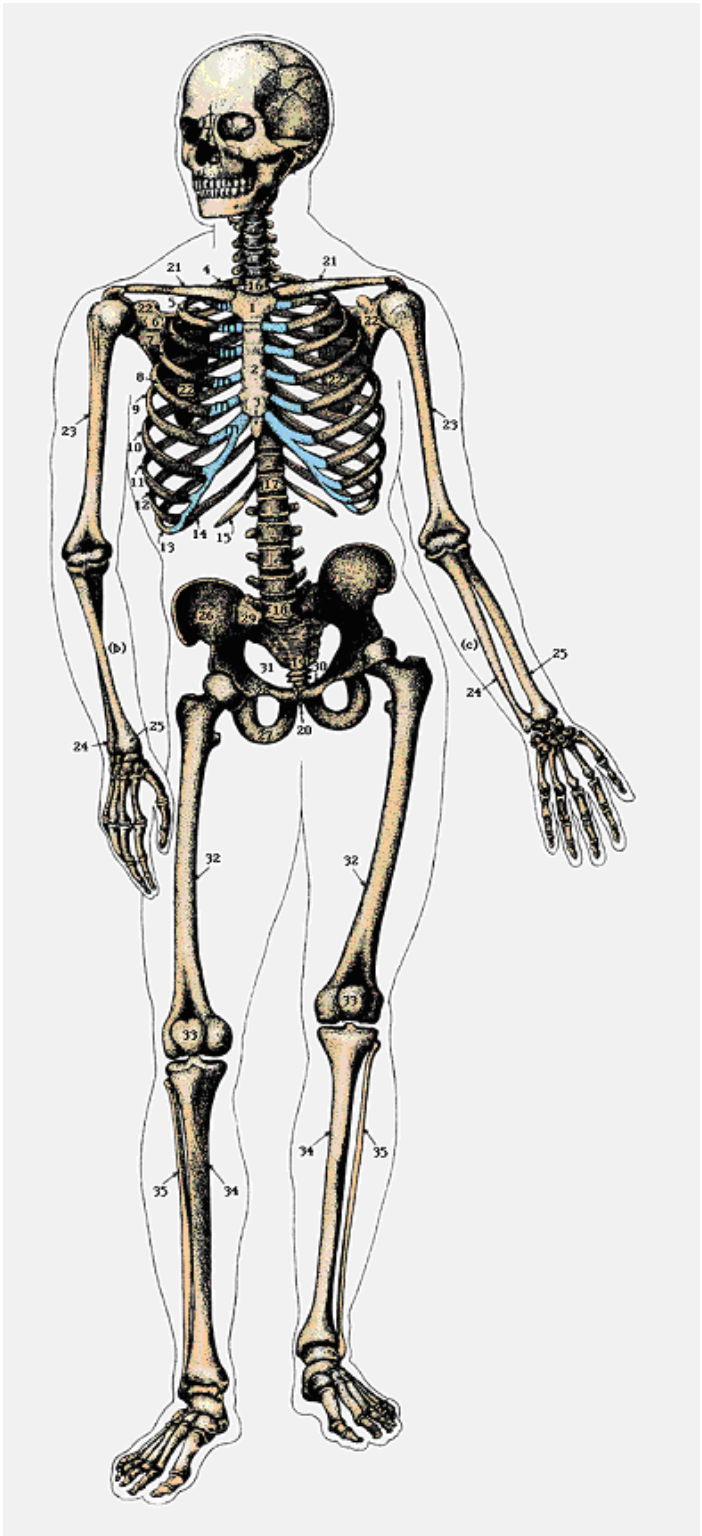
By means of a sound the general topography of the urethra and bladder can be investigated; with the urethroscope the interior of the urethra can be illuminated and viewed directly; with the cystoscope the interior of the bladder is in a similar manner illuminated for visual examination. In the bladder the main points to which attention is directed are the **trigone,** the **torus uretericus,** the **plicæ ureteric æ,** and the openings of the **ureters** and **urethra**.

Female Urogenital Organs. In the **pudendal cleft** between the labia minora are the openings of the **vagina** and **urethra.** In the virgin the vaginal opening is partly closed by the **hymen**—after coitus the remains of the hymen are represented by the carunculæ hymenales. Between the hymen and the frenulum of the labia is the **fossa navicularis,** while in the groove between the hymen and the labium minus, on either side, the small opening of the **greater vestibular** (*Bartholin's*) **gland** can be seen. These glands when enlarged can be felt on either side of the posterior part of the vaginal orifice. By inserting a finger into the vagina the following structures can be examined through its wall. Behind, from below upward, are the **anal canal,** the **rectum,** and the **rectouterine excavation.** Projecting into the roof of the vagina is the vaginal portion of the cervix uteri with the external uterine orifice; in front of and behind the cervix the anterior and posterior **vaginal fornices** respectively can be examined. With the finger in the vagina and the other hand on the abdominal wall the whole of the **cervix** and **body of the uterus,** the **uterine tubes,** and the **ovaries** can be palpated. If a speculum be introduced into the vagina, the walls of the passage, the vaginal portion of the cervix, and the external uterine orifice can all be exposed for visual examination.

The external urethral orifice lies in front of the vaginal opening; the angular gap in which it is situated between the two converging labia minora is termed the **vestibule.** The urethral canal in the female is very dilatable and can be explored with the finger. About 2.5 cm. in front of the external orifice of the urethra are the **glans** and **prepuce of the clitoris,** and still farther forward is the **mons pubis.**



pelvis 1 (human): A female, B male, C right hipbone, D lateral view, E medial view; 1 sacrum, 2 coccyx, 3 symphysis, 4 ilium, 5 pubis, 6 ischium, 7 acetabulum, 8 sacral foramen, 9 ischial tuberosity, 10 lesser sciatic notch, 11 ischial spine, 12 greater sciatic notch, 13 posterior inferior iliac spine, 14 posterior superior iliac spine, 15 iliac crest, 16 anterior superior iliac spine, 17 anterior inferior iliac spine, 18 acetabular notch, 19 superior ramus of pubis, 20 pubic tubercle, 21 pubic crest, 22 obturator foramen, 23 inferior ramus of pubis, 24 inferior ramus of ischium, 25 iliac fossa, 26 articular surface for sacrum, 27 sacroiliac joint, 28 sacral promontory.



skeleton 1: Skeleton of Adult Man Head: Chest: 1 manubrium, 2 gladiolus, 3 xiphoid process, 4 to 10 true ribs: first to seventh ribs inclusive, 11 to 13 false ribs: eighth to tenth ribs inclusive, 14 and 15 floating ribs, a coastal cartilage. Trunk: 16 first thoracic vertebra, 17 twelfth thoracic vertebra, 18 fifth lumbar vertebra, 19 fifth sacral vertebra, 20 coccyx. Upper Extremity--shoulder: 21 clavicle, 22 scapula. Upper Extremity--arm: 23 humerus, 24 ulna, 25 radius, b bones of forearm in prone position, c same in supine position. Lower Extremity--bones and principal parts of pelvic girdle: 26 ilium, 27 ischium, 28 pubis, 29 sacrum, 30 pelvic brim, 31 pelvic cavity. Lower Extremity--bones of the leg: 32 femur, 33 patella, 34 tibia, 35 fibula.

