

sides of the 3rd, 4th, 5th, and 6th sternobræ by a narrow tendon. The fibres pass transversely outwards posteriorly, and slightly outwards and forwards anteriorly, and terminate laterally 1 inch to the outer side of the sternum. It is *inserted* into the cartilages of the 3rd to the 8th ribs, and into the fascia between them upon the intercostal muscles. These muscles are supplied by the intercostal or lumbar nerves.

THE MUSCLES OF THE ABDOMEN.

In *Phoca vitulina* and in *Arctocephalus* these are the external oblique, internal oblique, transversalis, rectus abdominis, and cremaster. The pyramidalis and quadratus lumborum are wanting.

The *Obliquus externus abdominis* in *Phoca vitulina* is much the strongest of the abdominal group. It has fourteen digitations. The first *arises* from the outer and posterior surface of the 4th rib, interdigitating with the serratus magnus, and, after mingling with a few of the fibres of the first or anterior head of the scalenus posticus, is partially crossed by part of the same muscle from the 5th rib. The second digitation from the outer and posterior surface of the 5th rib interdigitates with the serratus and touches the origin of the posterior slip of the scalenus posticus, which passes beneath the digitation of the serratus from this rib. The third to the seventh spring from the outer and posterior surfaces of the 6th to the 10th ribs, interdigitating with the serratus magnus only. The eighth to the thirteenth digitations spring from the outer and posterior surfaces of the 10th to the 15th ribs, interdigitating with the latissimus dorsi. The digitation from the last rib is the largest of the series from ribs. The fourteenth digitation has no bony origin, but comes from the lumbar fascia, interdigitating with the latissimus dorsi, and is still larger than the thirteenth. The fibres from the first and second digitations run backwards and inwards and terminate near the inner edge of the rectus muscle, and are continuous with the fascia covering its posterior surface; those from the third and fourth have the same course, but form an aponeurosis near the inner edge of the rectus, and join the aponeurosis of the other side. From behind the ensiform cartilage to the symphysis pubis the muscle terminates in an aponeurosis upon the outer border of the rectus, the fibres of one side decussating with those of the other. The anterior digitations run obliquely backwards and inwards, the middle more so, and those fibres coming from the posterior ribs and the dorsal fascia are nearly antero-posteriorly directed. The muscle is thinnest at its anterior end and thickest at its posterior and dorsal side, and does not thin off at the side of the rectus but ends abruptly as a tendon. The dorsal border behind the last digitation overlies the lumbar fascia, and is kept in its position by the fascia over the surface of the muscle passing on to it. The dorsal edge of the muscle runs directly backwards to a little to the outer side of the patella, whence the posterior border runs obliquely backwards and inwards to the symphysis in a direct line from the patella. From the posterior border, midway between the outer edge of the patella and the symphysis, two strong flat tendons are developed; the outermost goes behind the cord and is attached to the brim of the pelvis a little more than 1 inch to the anterior side of the symphysis, its posterior border being posterior at the attachment. From the anterior border of this a thin triangular aponeurosis is attached to the brim of the pelvis, extending from the anterior part of the outer pillar to an inch and a quarter posterior to the pectineal eminence.

In *Arctocephalus* it *arises* by ten digitations from the posterior and outer surfaces of the 6th to the 15th ribs, each digitation ending about half an inch from the junction of the ribs with their