Opening Incision – Exploratory Laparotomy

All layers of the abdominal wall (skin, abdominal muscles and peritoneum) are cut in the same direction when using a through-and-through incision. This usually occurs in a dorsoventral direction and the internal and external abdominal oblique muscles are cut at an angle to the direction of their fibres and the transverse muscle in the direction of its fibres:

• advantage: a large laparotomy wound comes about, through which the abdominal cavity and exposure of the digestive tract parts can be easily manipulated.

• disadvantages: more tissue damage, mainly due to the cut at an angle to the muscle fibres (greater chance of haemorrhage and complications during the wound healing); chance of undesired prolapse of intestines during the operation, for instance in a severely-overfilled abdominal cavity or with resistance and abdominal contracture of the animal.

Through and Through Incision

* Ventral to the transverse processes of the lumbar vertebrae, a vertical (dorsoventral) through-and through incision is made through the skin and subcutis.
* Hereafter, the external abdominal oblique muscle and the internal abdominal oblique muscle are cut in the same direction, thus almost perpendicular and crosswise to the direction of the fibres.
* Bleeding vessels are clamped with vessel clamps and ligated. After this, a small incision is made in the transverse abdominal muscle.
* Depending on the location of the laparotomy wound (high or low in the flank), this involves either the muscled or tendinous portion. The tendinous portion is called the transverse fascia. Next, through this opening using forceps, the transverse fascia with the peritoneum attached is held somewhat raised and carefully incised into, whereby the abdominal organs lying directly underneath are not damaged.
* Using two fingers for protection and guidance, the incision is extended in both directions. Each incision in the separate layers of the abdominal cavity is shorter than those in the previous layer; the incision in the skin is therefore the longest; the incision in the transverse abdominal muscle, in this case, the transverse fascia and the peritoneum the shortest.