Surgical technique of digit amputation

The skin incision is made along the axial and abaxial surface of the coronary band. Then vertical incision are made cranially and caudally. The skin and subcutaneous tissues are incised to the bone.

The skin incision on the axial surface is made first as to not to obscure the surgical field with blood. The skin is then dissected free from the underlying digit and are attempts to save as much of the skin flab as possible. Alternatively a circumferential skin incision can be made in a similar plane to the wire cut.

The amputation can be performed in two locations. A low amputation is performed when the coffin joint and distal phalanx are dissected. This amputation is directed through the middle phalanx. High amputation is used in cases of the coffin joint, distal phalanx, pastern joint and middle phalanx. This amputation is directed through the junction of the middle and distal third of the proximal phalanx.

An obstetric saw is used in the interdigital space. An assistant is needed for the sawing procedure. The amputation is commenced with the wire saw directed parallel to the long axis of the limb until the wire is located at the distal end of the proximal phalanx. The saw is directed perpendicular to the long axis of the proximal phalanx to seat the wire in the bone and then position of the wire is directed so that it’s approximately 45 degrees to the long axis of the proximal phalanx.

The sawing motion should not be too rapid as heat necrosis of tissues, including bone may occur leading to excessive sloughing during the healing period. Care should be taken to avoid invading the fetlock joint capsule. Once the digit has been removed, excess tendons and tendon sheaths should be dissected sharply from the wound. If the digit artery can be located, it should be ligated.

Some of the skin flaps may be sutured down, but when the surgical site is swollen from infection and when some skin necrosis is present in the region, this is not usually possible.

Complete closure is contraindicated because infection will resolve rapidly if the skin flap is not completely sutured to allow better ventral drainage. The value of the skin flaps and any of attempt at closure has been questioned.

An anti-biotic powder is applied to prevent haemorrhage when the tourniquet is removed and some form of impervious covering may be indicated.