

SYMPHYSIAL FRACTURE REPAIR: ANTERIOR CERCLAGE TECHNIQUE

General Comment

- Symphyseal fractures are common in cats.

Indications

- Fractures of the mandibular symphysis; rostrocaudal fractures of other portions of the anterior mandibular bone supporting the incisors.

Contraindications

- Osteomyelitis.
- Severe periodontal disease.
- Comminuted fractures.

Objective

- A wire is passed between the skin and bone around both sides of the mandible behind the canine teeth to stabilize and compress the fracture/separation.²⁻⁴

Materials

- Howe pliers.
- 22 gauge soft stainless steel wire.
- Large hypodermic needle (14 to 18 gauge).

Technique

Step 1—The wire is passed into the bore of the needle at the hub to make sure the wire fits through the needle (*A*).

Step 2—A stab incision is made, and the needle is inserted at the ventral midline, through the skin of the mandible, and passed along the surface of the bone, directed dorsally to the buccal-distal side of the canine (*B*).

Step 3—The needle is grasped with orthodontic pliers while the wire is pushed up, but not completely, through the needle (*C*). The

needle is removed, leaving the wire between the bone and skin and exiting both at the access and exit sites.

Step 4—The needle is reinserted at the ventral midline into the skin of the mandible and directed dorsally to the buccal-distal side of the opposite canine, in a fashion similar to that of the first insertion (*D*).

Step 5—The wire is inserted into the bore at the tip of the needle (*E*).

Step 6—The needle is removed, along with the wire.

Step 7—While the symphysis is stabilized in proper alignment, the wire ends are clamped together at the midventral puncture site and twisted until the mandible is stable (*F*). A small orthopedic wire-twister is preferred, but a strong needle holder can be used, observing traditional guidelines for effective cerclage technique.

Step 8—The wire is trimmed so that approximately 1/4 inch or four twists remain.

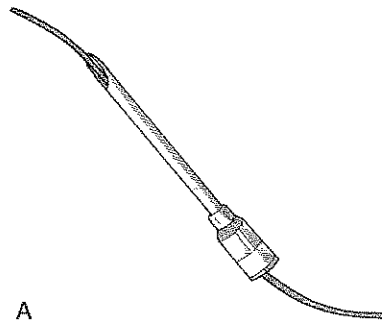
Step 9—The wire is gently bent out of the way so that the sharp edge does not protrude or irritate. A single cruciate skin stitch is placed to close the skin and cover the wire.

Complications

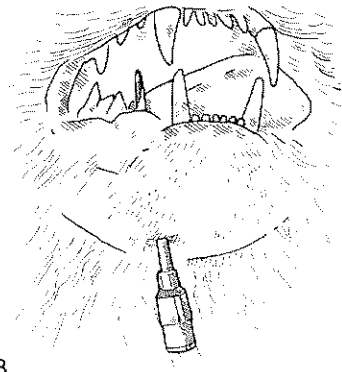
- Breaking the wire by overtwisting. This requires rewiring.
- Overtightening causing misalignment or necrosis of bone and subsequent malunion (misalignment prevented by evaluating the occlusion after the wire is tightened; if the occlusion is not correct, adjustments should be made, another technique used, or the patient evaluated for other fractures or temporomandibular joint problems).

Aftercare

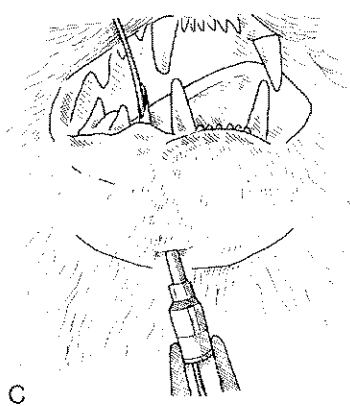
- The wire is removed after 4 to 6 weeks, and the jaw is checked for stability.
- Failure for union to occur may not be as serious as first thought. Many patients do very well with mandibles that function independently.
- Other forms of symphyseal repair.
- Transosseous cortical screw.^{2, 7, 8, 21}



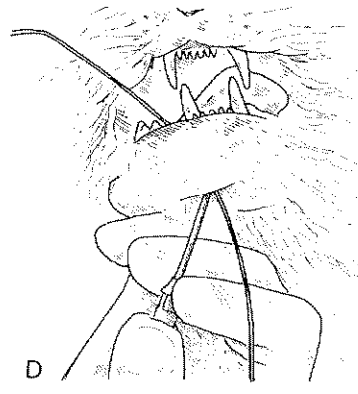
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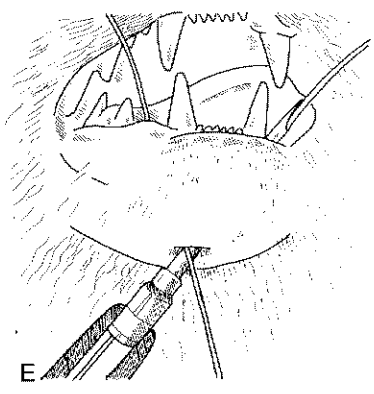
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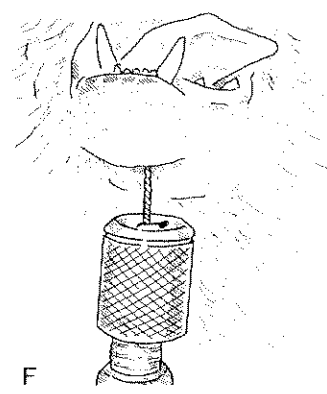
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