Potential Risks and Prevention in Implant Dentistry

Prepared by: Daniel Oreadi, DMD

EDIC CLINICAL DENTISTRY ADVISOR | 2022

GENERAL CONSIDERATIONS

- Thorough preoperative evaluation
- Review patient's expectations
- Proper treatment planning including 3D imaging when indicated
- Adequate review of possible risks and complications with consent
- Review of pertinent anatomic structures and their protection
- Careful incision design and flap management
- Considerations for adequate bone manipulation with thorough irrigation
- Careful suturing
- Detailed postop instructions
- Postop antibiotic therapy
- Follow up

RISKS FACTORS ASSOCIATED WITH POTENTIAL IAN INJURY

- Root proximity to the canal
- Darkening of the roots along the canal
- · Deflection of the IAN canal
- Thickening of the lamina dura along the canal
- Narrowing of the canal at level of root apices

PREOPERATIVE INTRAOPERATIVE POSTOPERATIVE Risk Management Strategies Risk Management Strategies Risk Management Strategies Assessment (dental, anatomical, functional) • Surgical technique • Home checks • Occlusal analysis • Incision • Post-op medication Treatment needs assessment . Identify and protect vital structures . Post-op instructions and review • Diagnostic imaging: bone quality · LA technique and choice of drugs CBCT-guided surgery and density and vital structures · Treatment plan/alternatives • Use of intraoperatve PA check X-ray · Risk assessment Sharp drills • Zone of safety (2mm - 4mm) . Case complexity and clinical · Medication (e.g., antibiotics, steroids) · Individualized disclosure and consent · Surgical planning, surgical guides, preop medication

The Preoperative, Intraoperative, and Postoperative risk management strategies and protocols for implant placement in the mandible.



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PREVENTION/RISK MITIGATION STRATEGIES

- Careful preoperative planning
- Detailed consent with thorough discussion of risks
- Obtain 3D imaging when increased risk
- PA or Panorex intraoperatively after initial preparation
- Thorough irrigation
- Antibiotic therapy either during or after each case

INTRAOPERATIVE RISKS

- · Bleeding
- Implant loss (deep spaces, sinus, nasal cavity, airway, esophagus)
- Nerve injury (witnessed)
- Damage to adjacent teeth
- Sinus perforation
- Soft tissue injury to lips, mucosa, FOM

POSTOPERATIVE RISKS

- Early
 - o Infection
 - o Severe Swelling
 - o Hematoma
 - o Numbness (temporary/permanent)
 - o Implant loss
 - o Osteonecrosis
- Delayed
 - o Infection (osteomyelitis)
 - o Bone necrosis
 - o Failed osseointegration
 - o Peri-implantitis
 - o Inability to restore

REPORTED INCIDENCE OF LIABILITY AFTER IMPLANT PLACEMENT

Since 2010, 12 percent of claims against EDIC insureds have involved allegations of negligent implants, and EDIC has paid more than \$5 million in indemnity.



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