DENTAL PROTOCOL IN RESPONSE TO COVID-19 Epidemic - South African Practice Perspective

Level 4: Preliminary Guidelines and Restrictions V2

SADA

The South African Dental Association **(SADA)** NPC

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Level 4: Guidelines and Restrictions V2

As a reminder, when treating patients, all patients should be treated as potentially being COVID-19 positive. Patients presenting with symptoms or are COVID-19 positive, should only be seen with relevant PPE and only for the management of pain and sepsis.

As dental practitioners, we are part of the economy and this is it important for us to be able to rebuild our practices which have been as hard-hit as any other business. And as dental practitioners, we are considered providing essential services. As a result, we have been able to continue to treat emergency patients as required. With the implementation of level four restrictions we are now able to expand the scope to include essential treatment as well as emergency therapies. The purpose of level 4 is to enable the economy to start to get back on its feet.

What are essential dental services? Essential services are deemed to be any service that is not only taking care of pain and sepsis but also any disease or dental problem that may lead to future pain, sepsis, and any other pathological process. This includes any treatment deemed essential to reduce the risk of further breakdown which may have a deleterious effect on the patient's future. This does not include any treatment that is deemed elective such as cosmetic procedures or implant procedures that can be put off until such time as we have reduced the risk of cross-contamination of our clinicians and patients.

During delivering of emergency and essential services, avoid AGPs as far as possible. The strictest PPE guidelines should be followed by the clinician and supporting staff.

The focus of dentistry during level 4 is on management of pain, disease and pathology. Although examination and assessment of patients may reveal incipient lesions or a desire for cosmetic dentistry or full/partial rehabilitations, these are not treatments that are suitable for level 4. Discussion and information sharing may be appropriate so that these treatments can be scheduled for levels 3, 2 or 1.

Where a procedure falls within the scope of a specialist dental field, those procedures should, as far as practically possible, be performed by the best qualified person in that line of dentistry available and it is therefore advised that specialised work be performed by a specialist or any person that has excelled and is recognised as an expert in a certain field. This would ensure the highest standard of care, protecting the patient against undue exposure to the virus, providing safe quality care in a safe environment and adhering to the one stop treatment protocol.

No procedure should be performed outside the scope of practice of your speciality. Reference in this regard should be made to the SADA 2016 *Coding Journal.*

1. General Dentistry

Dental practitioners should avail themselves for remote consultations throughout lockdown. Patients should be consulted in person if further investigation and/or management is necessary or where the lack of treatment may result in harm, infection or in future complications.

As with level 5, dental treatment during level-4 lockdown should be limited to emergency cases or cases where withholding treatment will lead to more serious complications (for example, progressing caries).

No elective treatment should be offered, nor should treatment that can be postponed—without harm to the patient's health—be attempted during level 4.

COVID-19 positive patients should be treated in specialised environments such as laminar flow, HEPA filtered (H13, H14) hospital theatres, or specially designed AIIR.

AGPs should be avoided as far as possible. If an AGP is inevitable, the procedure should be performed under rubber dam isolation with close approximation of a high-volume evacuation (HVE) suction for limited, short intervals only. The operator should be equipped with the correct PPE—**head cap, eye protection, nose and mouth protection and a water-resistant gown.**

Precautionary rinses or sprays: For all the procedures listed below, it is recommended that the patient must rinse their mouth immediately with 1 % H_2O_2 (1% for 2 periods of 30 seconds each.) Povidone-iodine rinses (0.2%), as well as nasal spray can also be of benefit, providing the patient is not allergic to iodine.

General anaesthesia (GA) should only be considered in the treatment of emergencies. Hospital rules and regulations applicable to level 4 apply. The merit and scope of work along with its associated risks should be discussed with the anaesthesiologist and theatre management.

Sedation (inhalation/ intravenous) should only be considered in cases where treatment justifies the use of sedation. Apply extreme caution regarding infection control measures to ensure a safe environment and outcome for both patient and dental staff. This includes full PPE, sterilization of all equipment used, including sedation machines, pipes and masks. No evidence is available on the safety of sedation or GA in COVID-19 positive patients.

Scope of Treatment

a) Diagnostics

- Requires HVE and adequate PPE.
- Examination and assessment of patients can be done as part of early diagnosis of possible disease and pathology. This includes essential intraoral radiographs, which should be limited to diagnosis and treatment verification.
- Extra-oral radiographs are encouraged where they may assist in the diagnostic process.

b) Restorative

- Requires limiting aerosol and working under rubber dam, with HVE and adequate PPE.
- Treatment of carious lesions which are approaching the pulp and may result in devitalisation of the tooth with subsequent pain and infection, if left untreated.
- Treatment of symptomatic and painful carious and crack lesions.
- Treatment of broken or chipped teeth or restorations causing soft-tissue trauma, even if the teeth are asymptomatic.

c) Fixed Prosthodontics

- Requires limiting aerosol and working under rubber dam, with HVE and adequate PPE.
- In extreme situations where single teeth are broken or cracked to the point that a bonded composite or amalgam restoration is impossible, an indirect restoration may be considered. This requires very careful assessment and judgement by the clinician and is a last resort. Use of long-term provisional crowns are also an option to consider.
- Where previous indirect restorations have fractured resulting in food traps, periodontal disease and caries, these should be replaced following the protocol outlined above.
- Re-cementation and re-bonding of loose crowns or bridges on vital or non-vital teeth should be carried out to prevent devitalisation, caries, loss of coronal seal and further complications. This is applicable to permanent or provisional restorations.

d) Removable Prosthodontics

- Requires HVE and adequate PPE.
- Denture repairs may be undertaken with laboratories exercising full COVID-19 protocols. New removable prostheses should be delayed until the threat is reduced.
- Chair-side repairs of removable dentures should be carried out where these prostheses are essential for the patient's well-being.
- The use of temporary soft liners is not encouraged as this will necessitate follow-up appointments.

e) Implants

- Requires limiting aerosol with HVE and adequate PPE.
- Fractured and poorly fitting implant abutments may lead to food impaction, infection around the implant and pain. As very little aerosol is generated during implant restoration, the abutment may be replaced to preserve the implant and prevent complications. Fully integrated implants may be considered for restoration in order to stabilise occlusion and maintain correct dental relationships and function.
- Guidelines for implant placement by general dentists will be governed by the same protocols as periodontists with the same absolute planning and procedure protocols.

- Periodontal disease is covered in its own section as described by our periodontist colleagues.

f) Trauma and Extractions

- Requires HVE and adequate PPE.
- Dental trauma and soft-tissue damage must be managed as a dental emergency with the applicable endodontic and surgical protocols.
- Teeth with a poor prognosis which are painful may be extracted, taking all necessary infection control safeguards into account. Asymptomatic hopeless teeth should be monitored and extracted only when it becomes an emergency or during a later level of lockdown.

g) Endodontics

- Requires limiting aerosol under rubber dam, with HVE and adequate PPE.
- AGPs should be avoided as far as possible. If an AGP is inevitable, the procedure should be performed under rubber dam isolation with close approximation of an HVE for limited, short intervals only. In addition, it is advised to douse tooth under isolation for 30 seconds with 1% H_2O_2 prior to instrumentation.

Only cases included in these criteria may be treated. Defer all other treatments.

- Emergency root canal treatment in cases presenting with irreversible pulpitis, facial swelling or acute pain or infection should be performed.
- An endodontic obturation can be done provided the obturation is performed during the emergency visit (single visit) and in line with conditions mentioned above. Where the obturation phase of treatment can be postponed, practitioners are encouraged to do so. The exception is for cases where withholding further treatment might cause harm or complications.
- Endodontic management of dental trauma should only be done in cases where postponement of treatment may pose a risk of harm/loss of a tooth. The objective in the treatment should be limited to reducing the immediate pain and risk and not to complete treatment that can be postponed.
- Vital pulp therapy (for example, treatment of complicated crown fractures, pulpotomy treatment or direct pulp capping) is allowed in cases presenting with reversible pulpitis or where the lack of treatment will result in irreversible pulpitis/infection**.**

h) Paediatric Dentistry

- Requires limiting aerosol under rubber dam, HVE and adequate PPE.

Only patients included under the following criteria may be treated. Defer all other treatments.

- Cavities causing pain/trauma to adjacent soft tissue, ART or Interim Therapeutic Restorations (ITR) with limited aerosol are the treatments of choice.
- Extraction is the treatment of choice for primary teeth associated with acute pain, abscess formation, facial swelling and cellulitis.
- Endodontic treatment on primary teeth (pulpotomy and pulpectomy) should only be performed if extraction of the tooth may have long-term consequences. (Refer to Endodontic section for more options).
- Management of trauma: Refer to Endodontic section for more options.

i) Periodontal Treatment/Oral Medicine

- Requires limiting aerosol with HVE and adequate PPE.
- Diagnostic services enabling the clinician to perform essential treatment.
- Management of periodontal diseases or infection.
- Management of peri-implant diseases.
- Supporting Periodontal Therapy (SPT) restricted to hand instrumentation for periodontal maintenance of patients with a history of periodontal disease.
- The nature of oral medicine is such that a biopsy is often required to provide a definitive diagnosis. The diagnosis speaks to management. AGPs can be greatly reduced whilst

practising within the scope of oral medicine, hence, dentists should be allowed to practice oral medicine fully.

- Implant placement and associated procedures may only be carried out if delaying the implant placement may be deemed detrimental to the patient's final outcome or may lead to further destruction and damage to the supporting structures. This may only be done as part of a procedure that includes the elimination of teeth due to pain, and sepsis that may lead to increased bone destruction if left unchecked.
- Procedures immediately following extraction as treatment for pain and sepsis where such procedures reduce the loss of biological tissue and the possibility of requiring further invasive and costly grafting procedures in the future.

j) Oral Hygiene Related Procedures

- Requires limiting aerosol under rubber dam, with HVE and adequate PPE.
- Fissure sealants under rubber dam for teeth at high risk for developing dental caries.
- Vital bleaching procedures—home treatment only; no in-office procedures.
- Fluoride treatment, where applicable (as prevention method only).
- De-sensitization of exposed roots where patients are experiencing symptoms.
- Scaling and polishing eliminating the use of aerosol-producing equipment (only hand scalers should be used—no ultrasonic scalers).

2. Orthodontics

Scope of Treatment

More routine orthodontic procedures may now be conducted.

- Scheduling of patients should give appropriate consideration to the following:
  - Prioritisation of appointments according to need of care
  - Minimisation of length of appointments
  - Adjustment of the workflow to reduce inter-patient contact
  - Allowance for adequate time between patients for preparation of the clinical environment
- *AGPs should be avoided, or modified to be kept to a minimum*
- Debonding procedures should be postponed where possible unless postponement will compromise the teeth in any way (for example decalcifications)
- Should the postponement of debonding not be possible, consideration should be given to the use of hand instruments to avoid aerosol generation. This may require the patient to return for completion of the removal of bonding material
- Should it be necessary to use aerosol generating procedures, proper PPE should be used and High Volume Evacuation protocols should be employed.

3. Periodontology, Implantology and Oral Hygiene

When treating patients, all patients should be treated as potentially being COVID-19 positive. Patients presenting with symptoms or those who are COVID-19 positive should only be seen with relevant PPE and only for management of pain and sepsis.

As dental practitioners, we are part of the economy and this is it important for us to be able to rebuild our practices which have been as hard-hit as any other business. And as dental practitioners, we are considered essential services. As a result, we have been able to continue to treat emergency patients as required. With the implementation of level four restrictions we are now able to expand the scope to include essential treatment as well as emergency therapies. The purpose of level 4 is to enable the economy to start to get back on its feet.

What are essential dental services? Essential services are deemed to be any service that is not only taking care of pain and sepsis but also any disease or dental problem that may lead to future pain, sepsis, and any other pathological process. This includes any treatment deemed essential to reduce the risk of further breakdown which may have a deleterious effect on the patient's future. This does not include any treatment that is deemed elective such as cosmetic procedures or implant procedures that can be put off

until such time as we have reduced the risk of cross-contamination of our clinicians and patients. While delivering of emergency and essential services, avoid AGPs as far as possible. The strictest PPE guidelines should be followed by the clinician and supporting staff.

Within the level 4 restriction recommendations, emergency and essential treatment to address dental infections, sepsis and pain are key.

Scope of Treatment

Periodontological procedures that can be done during this level include (but are not limited to):

a) Diagnostics

- Services enabling the clinician to perform essential treatment

b) Infection Management

- On-going management of periodontal diseases or infection

c) Disease Management

- Management of peri-implant diseases

d) Supportive Periodontal Treatment (SPT)

- Supportive therapy is restricted to hand instrumentation
- Periodontal maintenance of patients with a history of periodontal disease.

e) Biopsies

- The nature of oral medicine is such that a biopsy is often required to provide a definitive diagnosis. The diagnosis speaks to management.
- Aerosol-forming procedures can be greatly reduced whilst practising within the scope of oral medicine and hence we feel that oral medicine specialists should be allowed to practice oral medicine fully.

f) Implant Placement and Associated Procedures

- These may only be carried out if delaying the implant placement may be deemed detrimental to the patients final outcome or may lead to further destruction and damage to the supporting structures. This may only be done as part of a procedure that includes the elimination of teeth due to pain and sepsis that may lead to increased bone destruction if left unchecked.

g) Ridge Preservation

- Procedures immediately following extraction as treatment for pain and sepsis where such procedures reduce the loss of biological tissue and the possibility of requiring further invasive and costly grafting procedures in future.

h) Oral Hygiene Related Procedures

- Requires limiting aerosol under rubber dam, with HVE and adequate PPE.
- Fissure sealants under rubber dam for teeth at high risk for developing dental caries.
- Vital bleaching procedures—home treatment only; no in-office procedures..
- Fluoride treatment, where applicable (as prevention method only).
- De-sensitization of exposed roots where patients are experiencing symptoms.
- Scaling and polishing eliminating the use of aerosol-producing equipment (only hand scalers should be used—no ultrasonic scalers).

4. Prosthodontics

Prosthodontic treatment should be performed under the umbrella of **Expanded Care**, which encompasses emergency and urgent care as well as minimal aerosol-producing procedures, where withholding or delaying treatment will lead to more serious complications.

No elective treatment should be offered, nor should treatment that can be postponed (without harm to the patient's health) be attempted during level 4.

Prosthodontists should avail themselves for remote consultations throughout lockdown. Patients should be consulted in person if further investigation and/or management is necessary or where the lack of treatment may result in harm, infection or in future complications.

COVID-19 positive patients should be treated in specialised environments such as laminar flow, HEPA filtered (H13, H14) hospital theatres, or specially designed AIIR.

Note: Appropriate PPE sterilization and patient preparation measures must be adhered to strictly, as defined in the preamble. All AGPs should be performed under rubber dam isolation. Prior to any procedure, prosthodontic patients must use pre-operative oral rinses.

Scope of Treatment

a) Fixed Prosthodontics

- Requires limiting aerosol and working under rubber dam, with HVE and adequate PPE.
- It is necessary to complete procedures with minimal to no aerosol production
- The only procedures offered are ones where further maintenance is necessary, failure of which may lead to infection and/or further deterioration of the oral health and quality of life (QOL).

b) Removable Prosthodontics

- The continuation or completion of procedures where further maintenance is necessary, failure of which may lead to infection and/or further deterioration of the oral health QOL.

c) Implant Therapy

- Implant procedures related to complications where the prostheses are critical for the patients' QOL.

d) Oncology & Craniofacial Trauma

- All prosthodontic procedures that are related to the management of malignant and benign maxillofacial lesions that cannot be deferred.

e) TMD

- Management of cases that cannot be otherwise managed pharmacologically.

f) Endodontics

- Refer to the Endodontics guidelines under General Dentistry.

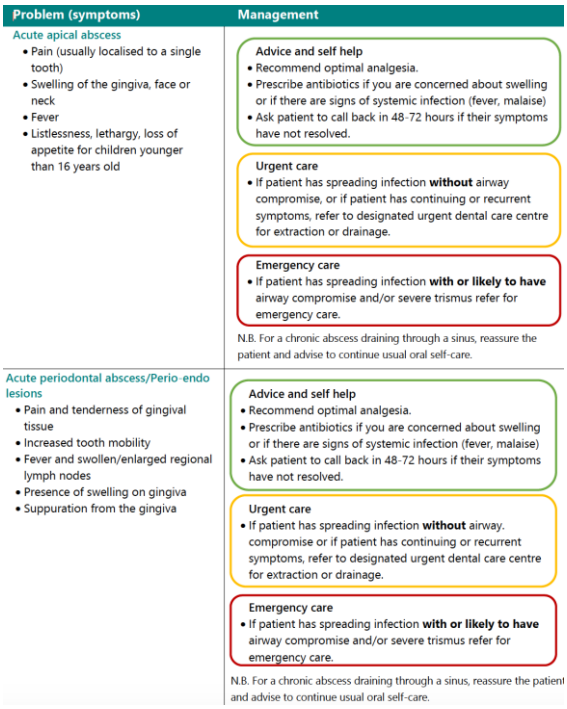
5. Maxillofacial and Oral Surgery

Like with level 5, level 4 also includes life-threatening and severe emergency procedures. During these severe emergency procedures, the necessary AGP is allowed, but it should be kept to a minimum and include those criteria and principles as for stage 5. AGPs include extractions, incision and drainage of a facial or dental abscess with concomitant removal of the offending tooth/teeth, the use of power tools to place plates and screws in facial fractures and in orthopaedics for the same fracture management, use of scopes in general surgery, naso-sinus endoscopy and intubation for anaesthesia.

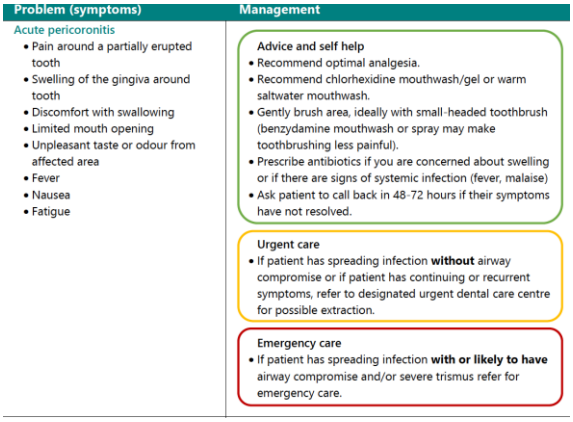
Level 4 sees a slight easing of measures and scope of working but only essential AGPs are still allowed, with recognition of additional safety to avoid the spread of vapour.

The Oro-Facial Sepsis Aspect

The following protocols are advised by the Scotland National Health System. This advice might change as new information becomes available. Please ensure that you are viewing the most recent version of this document by referring to www.sdcep.org.uk.]



Problem (symptoms)	Management
Acute apical abscess • Pain (usually localised to a single tooth) • Swelling of the gingiva, face or neck • Fever • Listlessness, lethargy, loss of appetite for children younger than 16 years old	**Advice and self help** • Recommend optimal analgesia. • Prescribe antibiotics if you are concerned about swelling or if there are signs of systemic infection (fever, malaise) • Ask patient to call back in 48-72 hours if their symptoms have not resolved. **Urgent care** • If patient has spreading infection **without** airway compromise, or if patient has continuing or recurrent symptoms, refer to designated urgent dental care centre for extraction or drainage. **Emergency care** • If patient has spreading infection **with or likely to have** airway compromise and/or severe trismus refer for emergency care. N.B. For a chronic abscess draining through a sinus, reassure the patient and advise to continue usual oral self-care.
Acute periodontal abscess/Perio-endo lesions • Pain and tenderness of gingival tissue • Increased tooth mobility • Fever and swollen/enlarged regional lymph nodes • Presence of swelling on gingiva • Suppuration from the gingiva	**Advice and self help** • Recommend optimal analgesia. • Prescribe antibiotics if you are concerned about swelling or if there are signs of systemic infection (fever, malaise) • Ask patient to call back in 48-72 hours if their symptoms have not resolved. **Urgent care** • If patient has spreading infection **without** airway. compromise or if patient has continuing or recurrent symptoms, refer to designated urgent dental care centre for extraction or drainage. **Emergency care** • If patient has spreading infection **with or likely to have** airway compromise and/or severe trismus refer for emergency care. N.B. For a chronic abscess draining through a sinus, reassure the patient and advise to continue usual oral self-care.



Problem (symptoms)	Management
Acute pericoronitis • Pain around a partially erupted tooth • Swelling of the gingiva around tooth • Discomfort with swallowing • Limited mouth opening • Unpleasant taste or odour from affected area • Fever • Nausea • Fatigue	**Advice and self help** • Recommend optimal analgesia. • Recommend chlorhexidine mouthwash/gel or warm saltwater mouthwash. • Gently brush area, ideally with small-headed toothbrush (benzydamine mouthwash or spray may make toothbrushing less painful). • Prescribe antibiotics if you are concerned about swelling or if there are signs of systemic infection (fever, malaise) • Ask patient to call back in 48-72 hours if their symptoms have not resolved. **Urgent care** • If patient has spreading infection **without** airway compromise or if patient has continuing or recurrent symptoms, refer to designated urgent dental care centre for possible extraction. **Emergency care** • If patient has spreading infection **with or likely to have** airway compromise and/or severe trismus refer for emergency care.

Note: The notion that cases should be treated in a hospital should be avoided. Many of these cases can be treated in the surgical rooms—provided that this does not pose a public safety risk. This risk can be assessed through a multitude of individual factors, e.g., the air conditioning system, location of the rooms, outside ventilation, and more. The admission of a patient into a hospital, as evident from the outbreaks at St Augustine's and Morningside Hospitals indicate that at least 60 contacts are generated per patient admitted. Should a COVID-19 positive patient be admitted, this could lead to the total closure of the facility. This constitutes a devastating loss of healthcare capability and poses enormous public health risks. A procedure done in a surgical room, however, can be done with two contacts only, and contact would be limited to about one hour. Current testing protocols for hospitals would constitute that an admission of 48 hours dramatically increases the risk to the patient, healthcare workers, the facility and the public at large.

SASMFOS would therefore suggest the following: The management of the patient should be performed using the shortest and most efficient treatment protocol and the safest place of service possible. In the decision of the safest place of service, the surgeon should take into consideration the interest and safety of the patient, healthcare workers, general public health and the integrity and safety of healthcare services.

This also includes the individual hospital and surgical room factors as outlined in the document "Dental protocol in response to the COVID-19 epidemic—A South African private practice perspective" should be taken into consideration in determining the safest place of service.

Surgery During Level 4

The scope of maxillofacial and oral surgery is extensive, and we advise that each clinician will use their utmost discretion when confronted with an essential, urgent or emergent case. The appropriate PPE need to be used at all times, and the use of assistants as well as persons present in theatre—including trade representatives—should be limited where possible.

In the event that a patient requires a general anaesthetic for treatment, it is recommended that the surgeon and anaesthetist discuss the merit of each case and follow the recommendations as per the guidelines outlined in A Pragmatic Approach To Surgery During COVID-19, which was published by South Africa Society of Anaesthesiologists (SASA). Furthermore, the facility where the procedure will be undertaken must fulfil the recommendations for safe surgery during the COVID-19 period.

Scope of Treatment

Level 4 procedures for maxillofacial and oral surgery include trauma and acute musculoskeletal patients in the following categories:

Maxillofacial and Oral Surgery:

i. **Obligatory in-patients:** Continue to require admission and surgical management e.g., significant mandibular and mid facial fractures and serious cervicofacial infections. We must expedite treatment to avoid pre-op delay and expedite rehab to minimise length of stay.
ii. **Non-operative patients:** Patients with injuries that can reasonably be managed either operatively or non-operatively e.g. condylar fractures. We must consider non-operative care if that avoids admission. Intermaxillary fixation (IMF) may also be considered in the office setting for amenable facial fractures with the use of IMF screws, resulting in minimising contacts, treatment time and avoiding admission to hospital.
iii. **Day-cases:** Surgery can be safely undertaken for a large number of conditions. Provision for day-case surgery must be made.
iv. **Outpatient Local Anaesthetic clinics**: Lacerations, biopsies and unresolved dental abscesses
v. **First contact and clinics:** Outpatient attendances should be kept to the safe minimum. Emergency Departments (ED) are likely to come under intense and sustained pressure and OMFS surgeons can make an important contribution by reducing the ED workload so that clinicians in ED can focus on medical patients. ED will change their system and will use triage at the front door and stream patients directly to OMFS Clinic before examination or diagnostics. Fracture clinics are likely to be asked to take all patients presenting with trauma (including wounds and minor injuries) straight from triage.
vi. **Treatment of myofascial pain disorders**: Consider as a level 3 service. Can be managed via remote consultation (telemedicine) in level 4, except where special investigations need to be performed during the workup of these patients or maintenance of therapy via infiltration is needed.
vii. **Maxillofacial oncology**: These are not deemed as extremely urgent except if they were urgent referrals in level 5.
viii. **Dental emergencies and symptomatic infectious conditions:** Offered only where further delay in treatment will negatively influence the outcome of treatment. Limit AGP as per standard protocol and additional measures suggested in the SADA protocol document.
ix. **Implant placement and associated procedures**: May only be carried out if delaying the implant placement may be deemed detrimental to the patient's final outcome or may lead to further destruction and damage to the supporting structures. This may only be done as part of a procedure that includes the elimination of teeth due to pain and sepsis that may lead to increased bone destruction if left unchecked.
x. **Implant related surgery:** Procedures following extraction at time of treatment for pain and sepsis that reduce the loss of biological tissue and hence reduce the possibility of requiring further invasive and costly grafting procedures in future.