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Standard Operating Procedure (SOP)

Document Title:	Dental ITR Protocol	Index Number:	
Major Business Process:	Dental Department ITR placement by Hygienist through virtual dental home	Related Policy:	
Sub-Process:		Effective Date:	Nov. 2017
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Primary Contact:	Chief Dental Officer	Last Review Date:	Nov. 2017

Standard Operating Procedure

Purpose:

- The protocols for hygienists placing dental ITRs through the virtual dental home model

Background:

- **Interim Therapeutic Restorations via the Virtual Dental Home**
  - An ITR is a restoration placed on teeth after hand excavation of soft debris/decay from a cavity. ITR limit the progression of tooth decay.
  - The SMILES Dental Project® establishes VDHs by integrating RDH into community settings to provide preventive dental care. The community is linked to a dentist, via telehealth technology, for assessment and treatment planning.
  - Facts about ITRs-
    - ITR techniques includes fluoride - releasing glass Ionomer.
    - ITR do not require local anesthesia.
    - ITRs are only placed after a dentist reviews a patient's chart and generates a treatment plan.
    - ITRs are only used on small to medium sized cavities that are asymptomatic.
    - The American Academy of Pediatric Dentistry (AAPD) recognizes ITRs as a beneficail provisional technique.
    - Source: AAPD " Policy on interim provisonal restorations"

Procedure:

CRITERIA FOR ITR PLACEMENT

- **Patient Factors:**
  - The patient's American Society of Anesthesiologist Physical Status Classification is III or less
  - The patient must be sufficiently cooperative enough to have the restoration placed without the need of special protocols, including sedation or physical support.
  - The patient or responsible party has given written and verbal consent for the procedure.
- **Tooth Factors:**
  - The cavity is accessible without the need for creating access using a dental handpiece or rotary instruments.
  - The margins of the cavity must be accessible so that clean non-carious margins can be obtained around the entire periphery of the cavity with the use of hand instrumentation.

  - The depth of the lesion is more than two mm from the pulp of the radiographic examination or is judged by the dentist to be a shallow lesion such that the treatment does not endanger the pulp or require the use of local anesthetic.
  - The tooth should be restorable and does not have other significant pathology.
  - The patient reports that the tooth is asymptomatic, or if there is mild sensitivity to sweet, hot or cold that the sensation stops within a few seconds of the stimulus being removed.
- **Acceptability of lesion for treatment by hygienists through the virtual dental home model:**
  - Depth/extent of lesion is assessed via radiograph(s) and /or intraoral photographs by supervising dentist.
  - ITRs by the RDH can be placed in a variety of situations such as
- **Class I lesions** where there is an opening in the occlusal surface. The presence of radiolucency in dentin that may be larger than the hole in the enamel is not a contraindication to placing an ITR. The ITR will remove the oxygen and food supply from the lesion and prevent its progression.
  - There will be cases where a spoon excavator or explorer may not reach the depth of the decay. If the lesion does not appear to be close to pulpal tissues greater than or equal to 2mm, and is inaccessible by spoon excavator or explore, it is permissible to flow the glass ionomer material into the cavitated lesion and proceed as if the lesion had been accessed with the spoon excavator or explorer. This will cut off the oxygen and food supply to the lesion, slowing or stopping its progress.
  - Keep in mind that there is a continuum between an ITR and sealants for pit and fissure surfaces. The restoration is considered an ITR if there is enamel breakdown and dentin involvement. It is considered a sealant if there is no enamel breakdown and dentin involvement.
- **Class V lesions:** where the lesion is easy accessible. There must be an opening in the tooth that is accessible to hand instruments and the glass ionomer.
- **Diagnostic patient records:** In some circumstances the available patient diagnostic records may not be ideal for making the decision to place an ITR. The dentist has the option to request further records or information. However, there will be circumstances where existing records are the best that can be obtained for that patient. It is then up to the collaborating dentist to use his or her clinical judgement to weigh the risks and the benefits of placing the ITR and to make the decision about whether to treatment plan the ITR.
  - Refer for direct care by the dentist, if possible:
    i. If the lesion appears to be close to pulpal tissue (≤ 2mm)
    ii. If the lesion is large enough that, in the opinion of the dentist, there is not adequate tooth structure to produce clean margins around the cavity and a sound restoration and tooth.
    iii. If the lesion is large enough that, in the opinion of the dentist, an ITR is not feasible because it will be difficult to contain the material during placement.

CRITERIA FOR COMPLETION OF AN ITR:

- Criteria for evaluating successful completion of adhesive protective restorations includes all of the following:
  - The restorative material is not in hyper-occlusion.
  - There is no marginal voids
  - There is minimum excess material.

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PROTOCOL FOR ITR PLACEMENT:

- ITR's will be placed by hygienists in the school setting when treatment planned by a dentist through the virtual dental home model.
- **Consent for ITR:**
  - It is the Patient Navigator's responsibility to educate parents about ITRs and to get a written consent form signed.
  - After getting a signed ITR consent form, the Patient Navigator needs to scan the consent form into the electronic record
  - When a patient presents for an ITR in the school setting, the dental assistant needs to verify that a signed consent form has been scanned into the electronic record.
- **Preoperative radiograph and intraoral picture:**
  - The hygienist should review the preoperative radiograph and intraoral picture prior to beginning the ITR.
  - If there aren't existing diagnostic radiographs and intraoral pictures of the tooth needing an ITR, then these will be taken and sent to the dentist to review prior to proceeding with placement of ITR.
- **Decay excavation:**
  - Verify that tooth is not symptomatic
  - Hygienist will excavate decay with hand instruments and no anesthetic
  - Margins of preparation need to be clean and on sound tooth structure
  - Decay should be removed on pulpal floor until there is resistance to hand instruments or decay is approaching pulp
  - If the pulp is exposed, then follow pulp capping protocol and place Vitrebond and then place glass ionomer restoration
- **Placing the ITR:**
  - Once decay is removed, the tooth should be rinsed and lightly dried
  - The tooth should be isolated with cotton rolls and dry angles
  - Following isolation, the cavity conditioner should be applied with a micro tip brush for 30 seconds
  - After 30 seconds, the cavity conditioner should be rinsed for 10 seconds
  - Dry the tooth, but do not desiccate
  - Mix and place the glass ionomer in the preparation
    - If there is excess glass ionomer material, it can be pressed into adjacent groves with firm digital pressure
  - Remove excess glass ionomer with cotton swabs and hand instruments
  - Cure the glass ionomer
  - Evaluate the ITR for any voids or overhangs
  - Use articulating paper to verify and adjust occlusion
    - There should be no occlusion on the ITR
  - Take and intra-oral picture of the ITR with markings from the articulating paper
- **ITR Card:**
  - Give patient the ITR card with post care instructions and concerns for child's parents/guardians

PROTOCOLS FOR FOLLOW-UP FOR AN ITR

- **ITR Follow-up**

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- Send ITR card home
- Take a picture after using articulating paper
- 24 hour phone call to parent
- 1 week follow-up
  - Phone call for most, in person if difficult per Elaine or Rominder
- 3 month in person evaluation
  - Photo if there are concerns
- 6 months
  - Intra-oral picture of ITR
  - Bitewing of ITR

PROTOCOLS FOR ADVERSE OUTCOMES AFTER PLACEMENT OF AN ITR :

- Pulp exposure during the preparation for ITR
  - Pin point (small area)
    i. Cover the exposure with a small amount of Vitrebond/Limelight, and cure that increment of material and then complete the restoration.
    ii. The patient should receive a consultation by, or referral to, a dentist for an appointment to take place within a week or two.
- Large area
  - Hold a dry cotton pellet over the exposed area until bleeding stops.
  - Place Vitrebond/Limelight over the exposure
  - Place glass Ionomer restoration
  - The patient should receive a consultation by, or referral to, a dentist for an appointment to take place within few days.
- Part of the tooth breaks during or after the placement of an ITR:
  - Repair the area with glass ionomer if it is a small area.
  - Make sure there are no sharp edges of tooth structure or material.
  - If it cannot be repaired, then the patient should receive a consultation by, or referral to the dentist.
- During the placement of an ITR the gingival tissue is injured:
  - For small area of injury, apply pressure to the area if there is any bleeding, the gingival tissue usually heals quickly. There may be no specific treatment or FU required.
  - For a large area of injury, apply pressure to the area, the patient should receive a consultation by, or referral to the dentist.
- During the placement of an ITR or at a subsequent visit the ITR is determined to be too high
  - The patient may or may not experience pain.
  - If possible, reduce the height of the ITR so it is no longer too high. If the tooth is not sensitive it should continue to be monitored using the follow-up protocols.
- If the tooth is sensitive:
  - The ITR should be checked to see if it is too high, adjust the high spot as needed.
  - For mild initial sensitivity the patient should wait to see if it gets better. Mild sensitivity may resolve over several weeks or months.
  - If the tooth becomes sensitive post ITR placement and continues for some time or the patient is experiencing more than mild sensitivity, then the patient should receive consultation by, or referral to, a dentist.
- The margins are not sealed
  - Add additional material to seal the margin if possible.
  - If the margin cannot be sealed, the patient should referred to a dentist for an appointment within few weeks.