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The Fiber-Splint™ Technique

Fiber-Splint consists of woven fiber glass strands packaged in a dry (not soaked in any adhesive or composite) tape form, which is cut with serrated scissors to the desired length. It has a very long, almost indefinite shelf life. Fiber-Splint is used on the tooth surface after acid etching the enamel, then soaking the Fiber-Splint in bonding agent (resin adhesive) and light curing it on the tooth. Thereafter it is coated with dental composite resin.

This results in physical properties which are superior to dental resins alone. Being translucent, Fiber-Splint is very aesthetic, almost invisible. It is also the most economical, metal-free alternative when it is used for incisor replacement.

Fiber-Splint Multi-Layer ML is the second generation of Polydentia's splinting material; it consists of six layers Fiber-Splint sewn together, one over the other. Thus, the individual layers no longer have to be applied onto each other, simplifying handling and saving valuable chair time.

RATIONALE

(A) RATIONALE OF SPLINTING PERIODONTALLY WEAK TEETH

Predominantly, lingual splinting of mandibular anterior teeth, and palatal splinting of maxillary anterior teeth.

A procedure in which the four incisors are joined at the incisal 1/3rd to increase support. Canine to canine splints are difficult to place and offer no special advantage over just incisor only splinting. However if incisors are very mobile but healthily maintainable in mouth, then canine support can be considered in such situations. It is recommended to splint three teeth together, that is, a central and a lateral incisor together with the canine of the same side as one splint. The same three teeth for the other side.

In particular situations, for example when only one maxillary lateral incisor is mobile, then just splint it with the firm central incisor, do not involve the canine. Similarly when only one central incisor is mobile just splint it with the adjacent central, if firm. Shorter splints work better than long span splints.

BENEFITS

1. It allows the patients to chew comfortably.
2. Mobile teeth become firm. Therefore, allowing the patient to maintain better hygiene. Patient can use

regular brush, interdental brush etc., without the fear of knocking down teeth.

3. As splinting is done in conjunction with other periodontal therapy, such as scaling/curettage/root planning/flap surgery etc, it also is an adjunct to preservation of soft and hard tissues.
4. Enhances patient's self-confidence.

(B) RATIONALE OF SPLINTING IN TOOTH INJURY

Injured anterior teeth needing stabilisation such as in:

Luxation: For 2-3 weeks

Subluxation: For 1-2 weeks

Extrusion: For 1-2 weeks

For stabilising an injured mobile tooth and to allow periodontal fibers to repair rather than a bony healing (may lead to ankylosis), a splinting time of less than 3 weeks is recommended.

To stabilise a root fracture, a longer splinting time is indicated such as one month to three months, as this will allow calcified tissue to heal.

It is for the clinician to evaluate the tooth for vitality and RCT should be done wherever indicated. RCT access can be gained through the Fiber-Splint if it has been applied lingually.

Many times isolation in recent tooth injury cases is difficult to achieve, also lips may be injured. In such cases Fiber-Splinting can be done on the labial surface of the teeth.

AREAS OF APPLICATION FOR FIBER-SPLINT

Splinting:

- Of periodontally weak teeth.
- Post trauma, for luxated/avulsed teeth.

Natural Tooth Pontic (NTP):

- Reusing patient's own incisor tooth as pontic. This is done for incisor teeth that are due for extraction (detailed technique is described later).
- Using composite alone to build up tooth intra-orally when interdental space is less. Acrylic Denture Stock Tooth may also be used as a pontic while Fiber-Splint works as an external framework.

Orthodontics:

- Retainer post orthodonti therapy
- Space maintenance