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ASPIJECT®

Self-aspirating Dental Injection Syringe

OPERATING INSTRUCTIONS

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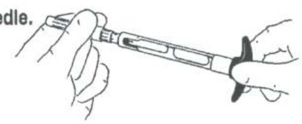
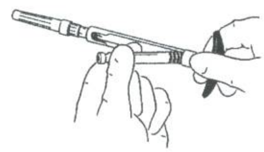
1. Attach a dental needle.



The non-rotating handle permits placing needle with bevel in correct orientation to expected bone location.

2. Insert a cartridge
rear end first to avoid off-center perforation.



Centric membrane puncture prevents risk of leakage during injection.

3. Push cartridge forward
immediately before injection to let needle perforate the membrane.

If the syringe is left loaded before or during treatment, the cartridge should be pushed from contact with the needle to avoid contaminating the solution with metal ions.

4. Aspiration
is accomplished by applying and immediately releasing a gentle pressure on the piston.

The elastic recoil of the cartridge membrane - when pushed onto the hub at base of the syringe - creates the negative pressure in the cartridge that secures distinct aspiration.

Optionally aspiration is also produced by depressing and releasing the thumb disc.

To continuously control the extra-vascular position of the needle it is recommended to carry out aspiration also during injection.

5. To unload the syringe
slide back the cartridge from the needle, invert the syringe, and remove the cartridge.

With the syringe still in the operators hand a second cartridge for repeat injection on same patient is easily inserted by the assistant. This permits the operator to keep eyes and concentration on the patient.

CARE OF SYRINGE

Like all stainless steel instruments, the syringe should be carefully cleaned before sterilization (anaesthetic solutions are highly acidic).

When needed, lubricate the piston with instrument silicone oil.

The syringe is sterilized by any method (max 200°C/392°F.)

GUARANTEE

ASPIJECT® is guaranteed for 5 years. Damages due to inadequate care or incorrect handling are not covered by the guarantee.

MANUFACTURER

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HOW TO USE "PAROJECT®" CORRECTLY

Congratulations on your purchase of the PAROJECT®. This is a very delicate and fine instrument, developed in cooperation with dentists and dental schools.
In order to gain the maximum benefit of the PDLA technique, we advise that you read this manual carefully and adhere to the given instructions. This will ensure a safe and efficient local analgesia.

OTHER APPLICATIONS

The tactile and well-balanced design of PAROJECT® provides precise application of all materials in cartridges -even pressure demanding viscous types.

PERIODONTAL LIGAMENT ANALGESIA

Periodontal ligament analgesia is commonly referred to as PDLA (PerioDontal Ligament Analgesia). In principle, a local analgetic solution is injected into the periodontal ligament. Previously it was believed that the solution diffused along the root surface within the periodontal ligament to the apical foramen region, where the pulpal nerve branches were anesthetized. Today, we know this is actually not correct.
Radiographic tracing of radiopaque solutions, has demonstrated that the solution very quickly diffuses into the bone surrounding the tooth. It therefore seems more appropriate to speak of a peridental analgesia. It is logical to assume that both periodontal, gingival and apical afferent sensory nerves are anesthetized by this method.
Histological studies have shown that reversible changes take place in the periodontal ligament whenever PDLA is carried out, but no permanent damage to the structures has been observed, when the correct procedure is followed. If the injection is carried out too quickly, or too much pressure used, or too large a volume injected, the periodontal ligament is irritated. An inflammatory reaction follows, and the tooth will be tender to percussion and function for a few days. Note also, that if too much pressure is applied, the solution leaks out of the gingival sulcus, and the analgesia will be ineffective.

INDICATIONS FOR PDLA

1. As a supplement to conventional local analgesia, where this is unsatisfactory, e.g. root canal treatment in case of acute pulpitis. The PDLA technique can be applied as intended into the gingival sulcus, but the unique construction of the PAROJECT® means that the injection can also be carried out directly into the exposed pulp, securing immediate analgesia, or into the apical region directly opposite each root tip. The method can also be used in case of pain during surgical removal of teeth.

2. Local analgesia of individual teeth in routine cases, i.e. cavity preparation, scaling, root canal treatment, simple extractions, etc.

3. Extraction of deciduous teeth. The advantage of the method is that concurrent soft tissue anesthesia is avoided. Attention is again drawn to the need to control the pressure applied and the time taken to inject, especially in the case of primary teeth, as some research material has been published indicating a risk of interference with the amelogenesis of permanent teeth in the vicinity of the injection site.

4. Diagnostic tool. It is well known that it can be difficult to identify a tooth with chronic closed pulpitis, as symptoms are often referred to other regions. In the case of such difficulty PDLA should be regarded as an alternative method of diagnosis. By blocking one tooth at a time with the PAROJECT®, it is possible to identify the causative tooth. This saves time and so avoids needless removal of existing fillings.

5. To obtain hemostasis. By injecting into the periodontal ligament or into a gingival papilla, it is possible to obtain immediate hemostasis before impression-taking or placing a composite filling, where troublesome bleeding has followed preparation.

6. Painfull palatal injections can be avoided. If the correct technique is applied, the incisive foramen or the greater palatine foramen injections can be avoided, or made less painful.

CONTRAINDICATIONS FOR PDLA

In acute infections, and when deep periodontal pockets exist, PDLA should not be used.
Multiple injections should not be used in patients with severe cardiovascular disease and/or cardiac arrhythmias, due to rapid absorption from the injected area (epinephrine).

CORRECT PDLA TECHNIQUE

1. Clean the tooth or teeth to be injected with chlorhexidine 0,2%, on a gauze sponge, or any other suitable disinfectant.

2. Surface analgesia can be applied with a topical analgetic ointment, but is usually not necessary as PDLA performed correctly gives practically no discomfort.

3. Each tooth should be injected corresponding to the number of roots, each root being injected along the approximal surfaces. Injections should never be given along the facial aspect, as the bone plate here is very thin, and might be damaged. Injections along the palatal aspect of the upper jaw and along the lingual aspect of the lower jaw distally to the cuspids can be performed without risk.

MOST IMPORTANT ADVICE: INJECT SLOWLY! HAVE PATIENCE!

4. A local analgetic solution containing a vasoconstrictor is recommended. The PAROJECT® injects 0.06 ml with every click. This small amount of solution is injected by applying a steady and firm pressure to the lever, without the use of excessive force. If the operator gets impatient, and increases the pressure, the solution will most likely leak out of the gingival sulcus, and the consequence is: Inefficient analgesia and a sore tooth for 2-3 days. The pressure on the lever is, therefore, crucial to the efficacy of the procedure. If the operator finds the PDLA technique inefficient, we advise the operator to redefine his or her technique by taking a critical look at the pressure applied to the lever and the time taken to inject. The answer to efficient injection is most frequently found here!

5. The needle is introduced into the gingival sulcus along the tooth surface on the mesial, or distal surface, until the alveolar bone crest is contacted. In this fixed position, inject slowly allowing the solution to diffuse into the bone.
Introduction of the needle with the bevel opening facing the root is easiest, the least painful and avoids trauma of the root surface.
After introduction of the needle into the injection site a better flow of the solution into the bone can be obtained by rotating the syringe/needle so that the needle's bevel opening ends up facing the alveolar bone.
The "art" lies in, painlessly placing the needle into the correct site, rotating the needle so that its bevel opening faces the bone, and then slowly and intermittently inject the solution into the periodontium. When slowly activating the lever one must feel, as the lever is squeezed, the solution infiltrating the tissue - without application of excessive pressure. The only visible sign of the solution correctly infiltrating the tissue (bone) is the blanching of the gingiva around the injection site. If no flow occurs - the needle could be blocked or wedged too tightly against the root surface or alveolar bone.
In such a case try to rotate the syringe/needle a few degrees rather than increase the pressure on the lever. If the solution leaks from the gingival sulcus, the needle is moved and the injection is reattempted at a lower pressure.

DOSAGE:

Depending on expected duration of the procedure and the length of the root, usually a dosage of 0.2-0.8 ml is sufficient.

Adequate analgesia requires that the solution infiltrates the periodontium to the apex/apices of the root/roots involved.
Splitting the dosage in two small deposits an each side of the root is recommended but not always necessary. At least two injections are needed for molars with two or more roots.

6. It is recommended that a 30 Gauge short needle (app. 12 mm) is used. To reach distal locations of the gingival sulcus - the needle can be bent, if necessary, using the sterile inside of the needle cap to bend the needle.

7. PDLA is thus a delicate technique, and for that reason it is important that the operator learns the technique correctly and takes time to practice it to secure optimum benefit.

Expert advice from Dental Schools in Aarhus and Stockholm by the revision of these recommendations is gratefully acknowledged.