

HYPOCHLORAN-3, HYPOCHLORAN-5

Solution of 3,25% and 5,25% sodium hypochlorite for root canal treatment

Indications

Treatment of the root canals preparing them to the obturation.

The mechanism of action and properties

Treatment of the root canal is one of the most important aspects of endodontic treatment, so you need to know in details the process of canal irrigation and the mechanism of action of irrigation solutions.

One of the most frequently used in practice irrigation solution for the root canal treatment is sodium hypochlorite (NaOCl).

A contact of sodium hypochlorite with proteins tissue produces the nitrogen, formaldehyde and acetaldehyde in a short period of time. Peptide bonds are broken, the proteins are dissolved. During this process, hydrogen in an amino group (-HN-) is replaced by chlorine (-NCl-), creating chloramine, which plays an important role in the antimicrobial activity. As a result of the action of sodium hypochlorite the necrotic tissues and pus dissolve, allowing the antimicrobial agent to disinfect the root canal more effectively.

In practice a number of solutions are used with a maximum concentration of 5.25% or less. However, the efficacy of the solution depends not only on the concentration of the formulation but also on the temperature of sodium hypochlorite in use. Thus, at room temperature (21 °C) 2.5% solution becomes less effective. However, upon heating the bactericidal effect of sodium hypochlorite is enhanced. It must be remembered that when heated above 37 °C the stability of the solution is weakened.

Since the activity of weak solutions decreases rapidly, irrigation should be done frequently and in large portions. The use of protein-regulatory antiseptics (phenol, etc.) modifies the pulp tissue to such an extent that it is necessary to use higher concentrations of sodium hypochlorite for irrigation.

Taking into account the above factors and practical developments it was determined the concentration of the solution - 3.25% NaOCl, which can dissolve live, necrotic and chemically fixed tissues.

The bactericidal effect of the proposed solution is caused by its alkaline properties (pH 11.5-12.0), as well as its ability to release chlorine gas (when used in combination with other chemicals). Combination of sodium hypochlorite with EDTA-containing materials (liquid chemical widening the root canals, gel for canals widening) significantly enhances the bactericidal effect of a solution.

Recommended use of "Hypochloran-3"

Remove the central part of the aluminum protective cap from infusion bottle. Conduct aspirate solution directly into the syringe through the rubber plug using an ordinary needle, preferably of large diameter. Then in the filled syringe change a sharp needle to the endo one named "Endoneedle". Slightly bend the needle at the required angle. Insert the needle into the root canal, leaving 3-5 mm to the apex, since the injected solution flows into the canal with the pressure. Start processing the root canal. To avoid excessive pressure and to ensure more effective operation the processing should not be too rapid. Near the place to be treated put a saliva ejector, which will quickly remove effluent solution together with the decomposition products reducing unwanted contact of hypochlorite with the oral mucosa. For complete removal of all of the decay products from the root canal the amount of used liquid must be substantial (10 - 20 ml).

Recommended use of "Hypochloran-5"

Open the bottle of sodium hypochlorite and soak a prepared turunda with the solution. Gently wring out and put it into the prepared root canal. Treatment should not be too rapid. Carefully process the root canal by forward and back movements of a turunda. Withdraw the turunda from the cavity and rinse the canal with water. Repeat such procedures 2-3 times, after which to degrease the canal, dry it and fill the filling material.

Recommendations. Batch alternation of 5% sodium hypochlorane solution and hydrogen peroxide in one root canal leads to a chemical reaction with release of free oxygen and copious foam, which provides an additional cleansing and antiseptic effect.

The package and storage conditions of "Hypochloran-3"

The solution is packed in infusion bottles of 300 ml.

Keep the material in a glass container with tightly closed lid in a cool, dark place at t of +4°C to +15°C. Avoid prolonged exposure to direct sunlight.

Shelf life is 2 years.

Antiseptic activity of the solution is guaranteed only under the recommended conditions of storage.

The package and storage conditions of "Hypochloran-5"

The solution is packed in infusion bottles of 25 ml or 150 ml.

Keep the material in a glass container with tightly closed lid in a cool place, protected from light at t of +4°C to +15°C. Avoid prolonged exposure to direct sunlight.

Shelf life is 2 years.

Antiseptic activity of the solution is guaranteed only under the recommended conditions of storage.