

# Antral irrigation with an indwelling plastic tube

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Drainage of purulent secretion has almost always been considered as one of the most important procedures in the treatment of maxillary sinusitis. A scientific basis for the therapeutical effect of drainage of the sinus is an increase in the local content of immunoglobulins (Carenfelt, 1977) and a reduction of the proteolytic activity (Engquist and Lundberg, 1983) after drainage.

Repeated irrigations have the disadvantages that they may cause the patient discomforts during each new puncture and that drainage and ventilation are not supported between each irrigation. A tube introduced into the sinus and remaining there for a few weeks may have advantages. Such tubes have been described using a tube with wings (Illum and Jeppesen, 1972; Jazbi, 1978) or a Foley catheter (Abdel-Salam and Gibb, 1981). These were introduced through a rather big trocar.

It seems desirable to have tubes which can be introduced in the maxillary sinus through an ordinary cannula and remain there as long as required. The tubes should be safety anchored. Preferably they should be disposable and easily attached to an irrigation instrument which also should be disposable.

## THE INSTRUMENT

The instrument consists of a metal cannula (2.5 × 110 mm) with a polyethylene tube (inner Ø1.50 mm) inside (Figure 1). This tube is prefabricated like a spiral with several holes at the end. The sinus is punctured with the cannula through the inferior meatus and the tube is introduced until the spiral has entered the sinus when the metal cannula is withdrawn. A special adapter is then introduced into the external end of the tube and irrigation is performed.

A new irrigation set consisting of a plastic bag and containing about 100 ml of saline can be used. This is delivered sterilized. It has an attachment which fits into the adapter. By compressing the bag the irrigation is easily performed.

After the irrigation the plastic tube is pushed as far backward as possible in the

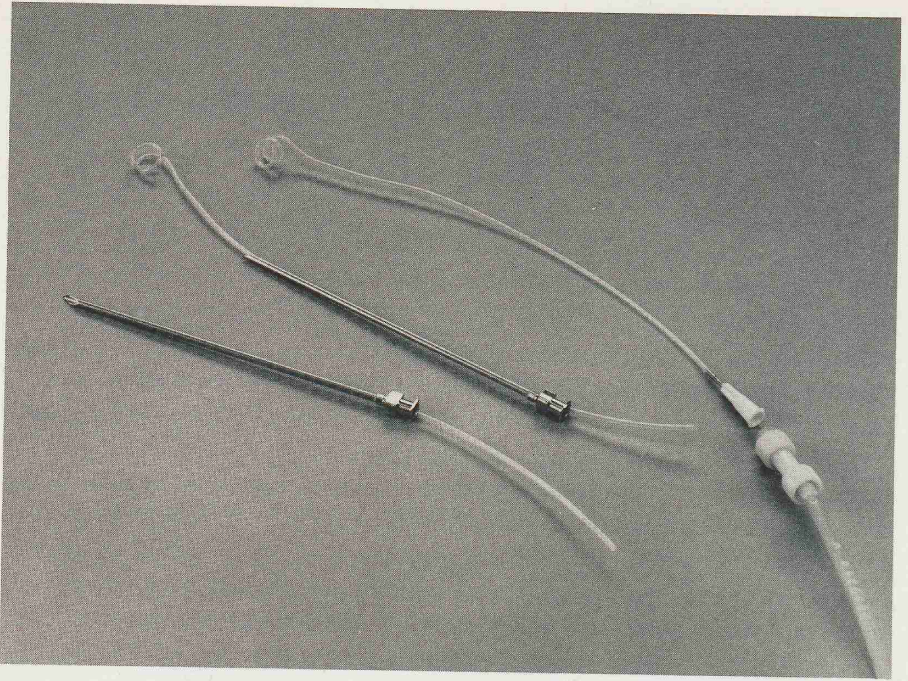


Figure 1. The three steps in the introduction of the indwelling tube in the maxillary sinus and the irrigation. To the left is seen the cannula with a plastic tube lying inside. The middle part shows when the plastic tube has been pushed forwards showing the spiral, with several holes in the antral end. To the right is shown the tube when the metal cannula has been withdrawn and an adapter introduced in the external end. The attachment for the irrigation set is also shown.

maxillary sinus. The tube is cut with a scissors to a length when it is not visible from the outside but still easily reached in the nose. At next irrigation the tube is pulled forwards, the adapter introduced and the irrigation set attached in the same way as during the first irrigation.

When no irrigations are required anymore the tube is pulled away from the sinus straightening the spiral at the withdrawal.

Clinical tests of this instrument have just started.

#### DISCUSSION

At least theoretically this disposable instrument have several advantages:

Only one puncture is required.

Repeated irrigations are possible.

Equilibration of antral pressure can occur.

Drainage of the sinus is facilitated.

The irrigation set is hygienic.

The disadvantage is that it involves some risk for irritation of the nose.



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