# Salivary duct intervention performance

**Descriptor:**

The local performance of salivary duct intervention.

**Background:**

Salivary duct intervention is a minimally invasive technique for the parotid and sub-mandibular gland. The main indications are for benign salivary gland obstruction, caused either by salivary calculi (75%) or duct strictures (25%). The procedure is generally very well tolerated and when successful can often spare the patient invasive surgery [ref 1.]. Few centres have developed this expertise, and there is a steep learning curve, but it is important to audit early performance to determine whether acceptable standards are being reached.

There is a reasonable failure rate, which may be due to the absence of a diagnostic sialogram, the incorrect selection of patients who are clinically or radiologically fit for the procedure, or due to technical factors.

Developing and adherence to an appropriate imaging protocol can help to minimise unnecessary procedures, and can guide the appropriateness of the investigation in future patients.

Guidance on how to perform the procedure is given in an RCR 2008 poster: Arthurs OJ et al., “Salivary duct intervention: a pictorial review”.

A local protocol could involve:

1. All patients should receive a standard pre-interventional diagnostic sialogram.

2. Success at cannulating the duct (a straight catheter is often better for submandibular access (Wharton’s duct), whereas a curved catheter often better for parotid (Stenson’s duct).

3. Use of dilators for duct access

4. Ability to engage stone in basket and retrieve successfully.

5. Ability to pass guidewire through stricture and dilate successfully.

6. All patients should receive a follow up sialogram following a 3 month interval.

## The Cycle

**The standard:**

There are no national standards published. Previous published literature states a success rate of 60 – 70 % using minimally invasive therapy for stones (McGurk et al., 2005) and stricture (Ngu et al., 2007).

Success rates could be sub-divided into:

1. Complete success: sialographic evidence of stone removal / stricture dilatation immediately following the procedure and at 3 month follow-up imaging, with symptom improvement.

2. Partial success: any level of technical success with symptom improvement (e.g. even if stone fragments remain).

3.Failure: technical failure (e.g. unable to access duct or dilate stricture) or no symptom improvement.

Complication rates should be monitored, including pain, bleeding, infection rate and failure e.g. basket impaction.

**Target:**

70% success rate.

Minimal complication rate (<10% in small series, <5% as experience progresses).

## Assess local practice

**Indicators:**

Success rates of procedure.

**Data items to be collected:**

Assess retrospectively a series of recent investigations.

Record the end result of the procedure, whether success or failure (as defined above), and complication rates.

**Suggested number:**

20 consecutive patients

**Suggestions for change if target not met:**

1.  Present the results of the audit to local radiographers and radiologists, to discuss the causes of procedural failure.

2.  Discuss whether improvement of patient selection, or technical experience, may improve outcomes.

3.  Review and re-audit within 6 – 12 months, depending on patient frequency.

**Resources:**

Radiologist to review images, to identify adherence to protocol.

20 cases (of up to 10 images each) are estimated to take 2 hours.

**References:**

1. Brown JE et al. Minimally invasive radiologically guided intervention for the treatment of salivary calculi. Cardiovasc Intervent Radiol. 2002; 25: 352-5.
2. McGurk M, et al., Modern management of salivary calculi. Br J Surg. 2005; 92: 107-112
3. Ngu RK et al. Salivary duct strictures: nature and incidence in benign salivary obstruction. Dentomaxillofac Radiol 2007; 36: 63-67

**Editor's comments:**

If performing significant numbers individuals may find this audit useful for revalidation.

**Submitted by:**

Owen Arthurs, Simon Smith. Reviewed by O Arthurs & S Smith 2012. Updated for CRAC by Rebecca Greenhalgh

**Published Date:**

Thursday 5 February 2009

**Last Reviewed:**

Monday 11 September 2017