



# Indian Association of Pediatric Surgeons

## Patient Information Sheet

# BRANCHIAL CYST & SINUS



**Concept, Text & Photograph Courtesy :**

**Dr. Lakshmi Sundararajan,**

**Consultant Pediatric Surgeon, Kanchi Kamakoti Child's Trust Hospital, Chennai**

**Edited, designed and formatted by :**

**Dr. Veereshwar Bhatnagar,**

**Former Professor & Head, Pediatric Surgery, AIIMS, New Delhi,**

**Currently Professor of Pediatric Surgery & Dean Research, School of**

**Medical Sciences & Research, Sharda University, Greater Noida, UP.**

**Published by :**

**Dr. Amar Shah, Jt. Secretary, IAPS, Consultant Pediatric Surgeon, Amardeep**  
**Children Hospital, Ahmedabad &**

**Professor Ravi Kanojia, Secretary, IAPS, PGIMER, Chandigarh**

**for & on behalf of the Indian Association of Pediatric Surgeons**

## What is branchial cyst / sinus ?

Branchial cysts and sinuses are conditions affecting the neck of children. Cyst refers to a swelling containing fluid (bag of fluid) and sinus is a track passing from the skin into the body.

## What causes this problem and how common is it ?

Branchial arches are seen in early development before birth. The various structures of head and neck develop from these arches. Branchial cyst and sinuses are congenital conditions and are formed from remnants of branchial clefts, which separated the branchial arches.

They are second most common congenital condition involving the neck in children. Most of them are from the 2<sup>nd</sup> branchial cleft.

## What are the symptoms ?

Children may be noted to have a pinpoint pit in the neck after birth which drains a small amount of fluid – Branchial Sinus.

Branchial Cyst present with a painless swelling in the side of neck, and may be seen at any age. If it gets infected, the swelling can suddenly increase in size or become painful. According to arch involved, the location of the sinus/cyst may be variable. Sometimes sinuses may only have an internal opening, and can present with repeated infections in the neck.

## When to see your doctor ?

It is preferable to seek medical advice soon after being noticed because of the propensity for infection.

## How is it diagnosed ?

Sinus openings seen on the neck generally make the diagnosis apparent on examination. Neck swellings will need investigation with an ultrasound of the neck and sometimes either a CT (computed tomogram) or an MRI (magnetic resonance imaging) study of the neck may be required.

In case of presentation of recurrent neck infections because of an internal opening, an endoscopic examination under anaesthesia may also be required.

### What are the treatments available ?

Surgery to remove the entire cyst and/or sinus tract is the treatment. If there is acute infection, it is first treated with antibiotics with/without needle aspiration and surgery performed after complete resolution of the infection.

### Are there any alternatives to surgery ?

In some tracts having only an internal opening, endoscopic ablation of the internal opening can be done.

### What does the operation involve ?

Surgery will be done under general anaesthesia.

In case of sinus tracts, a small incision is made around the external opening, the tract is dissected in its entirety. This may sometimes need a second small cut in a step-ladder fashion. For cysts, the entire cyst is removed by an incision over it, carefully dissecting off from other important structures around it, and any internal communication to the throat from it.

### What are the possible complications / what happens after the operation ?

The cyst/sinus from the 2nd branchial cleft are the most common. Surgery to remove them are less troublesome than the 1<sup>st</sup> or 3<sup>rd</sup> cleft remnants. Recurrence can occur if the tract is incompletely removed. Such a situation is more often seen after previous infection. Infection, bleeding, and injury to surrounding structures like nerves, blood vessels is also a risk during surgery.

After excision of cysts, a drain may be left in place to drain any collection of blood/fluid. This will be removed after a few days, once any drainage decreases.

### What is the outlook or future of these children ?

After complete excision of the remnant cyst/tract, the children have an excellent outcome and can live a normal life.



**MRI images of branchial cyst**