

# **Wound drains following thyroid surgery.**

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## **Source**

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## **Abstract**

### **BACKGROUND:**

The nature and indications for thyroid surgery vary and a perceived risk of haemorrhage post-surgery is one reason why wound drains are frequently inserted. However when a significant bleed occurs, wound drains may become blocked and the drain does not obviate the need for surgery or meticulous haemostasis. The evidence in support of the use of drains post-thyroid surgery is unclear therefore and a systematic review of the best available evidence was undertaken.

### **OBJECTIVES:**

To determine the effects of inserting a wound drain during thyroid surgery, on wound complications, respiratory complications and mortality.

### **SEARCH STRATEGY:**

We searched the following databases: Cochrane Wounds Group Specialised Register and the Cochrane Central Register of Controlled Trials (CENTRAL) (issue 1, 2007); MEDLINE (2005 to February 2007); EMBASE (2005 to February 2007); CINAHL (2005 to February 2007) using relevant search strategies.

### **SELECTION CRITERIA:**

Only randomised controlled trials were eligible for inclusion. Quasi randomised studies were excluded. Studies with participants undergoing any form of thyroid surgery, irrespective of indications, were eligible for inclusion in this review. Studies involving people undergoing parathyroid surgery and lateral neck dissections were excluded. At least 80% follow up (till discharge) was considered essential.

### **DATA COLLECTION AND ANALYSIS:**

Studies were assessed for eligibility and data were extracted by two authors independently, differences were resolved by discussion. Studies were assessed for validity including criteria on whether they used a robust method of random sequence generation and allocation concealment. Missing and unclear data were resolved by contacting the study authors.

## **MAIN RESULTS:**

13 eligible studies were identified (1646 participants). 11 studies compared drainage with no drainage and found no significant difference in re-operation rates; incidence of respiratory distress and wound infections. Post-operative wound collections needing aspiration or drainage were significantly reduced by drains (RR 0.51, 95% CI 0.27 to 0.97), but a further analysis of the 4 high quality studies showed no significant difference (RR 1.82, 95% CI 0.51 to 6.46). Hospital stay was significantly prolonged in the drain group (WMD 1.18 days, 95% CI 0.73 to 1.63). Eleven studies compared suction drain with no drainage and found no significant difference in re-operation rates; incidence of respiratory distress and wound infection rates. The incidence of collections that required aspiration or drainage without formal re-operation was significantly less in the drained group (RR 0.48, 95% CI 0.25 to 0.92). However, further analysis of only high quality studies showed no significant difference (RR 1.78, 95% CI 0.44 to 7.17). Hospital stay was significantly prolonged in the drain group (WMD 1.20 days, 95% CI 0.77 to 1.63). One study compared open drain with no drain. No participant in either group required re-operation. No data were available regarding the incidence of respiratory distress, wound infection and pain. The incidence of collections needing aspiration or drainage without re-operation was not significantly different between the groups and there was no significant difference in length of hospital stay. One study compared suction drainage with passive closed drainage. None of the participants in the study needed re-operation and data regarding other outcomes were not available. Two studies (180 participants) compared open drainage with suction drainage. One study reported wound infections and minor wound collections, both were not significantly different. The other study reported wound collections requiring intervention and hospital stay; both were not significantly different. None of the participants in either study required re-operation. Data regarding other outcomes were not available.

## **AUTHORS' CONCLUSIONS:**

There is no clear evidence that using drains in patients undergoing thyroid operations significantly improves patient outcomes and drains may be associated with an increased length of hospital stay. The existing evidence is from trials involving patients having goitres without mediastinal extension, normal coagulation indices and the operation not involving any lateral neck dissection for lymphadenectomy.