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## Comparison of application of deep tension sutures after excision in pilonidal sinus and excision followed by healing through secondary intention of pilonidal sinus

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### Abstract

Pilonidal Sinus Disease commonly affects people in 2<sup>nd</sup> decade presenting with discharge from natal cleft. There is increased morbidity if it is not identified at the earliest and treated. In this study we present a technique of closure by primary intention by applying a new suture technique -Deep Tension Suturing to close the defect after excision of pilonidal sinus. It is a case control prospective study conducted in department of General surgery in JSS Mysuru between December 2018 to October 2020. Candidates with midline pilonidal sinus are suitable for this procedure. Here 1-0 prolene is used for applying deep tension sutures. Skin is approximated with 3-0 ethilon suture. This is done in comparison with patients undergoing excision and healing by secondary intention. Mean time taken to heal in Deep tension suturing cases is 10.25 days and the mean time taken to heal in Excision and healing by secondary intention is 18.57 days. Even the duration of hospital stay is also less in Deep tension suturing.

**Keywords:** Pilonidal sinus, deep tension suturing, excision, healing time

### Introduction

Management of Pilonidal sinus disease is usually challenging as there are high rates of wound infection, improper or impaired healing and can cause recurrence<sup>[1]</sup>. The origin and pathogenesis of the pilonidal sinus disease is a subject of controversy A number of surgical techniques have been described for management of Pilonidal sinus disease, with no optimal method defined yet<sup>[2]</sup>. Ideal treatment should aim in less pain, fewer complications, patients' promptly resume of normal activities<sup>[3]</sup>. The application of Deep Tension Sutures a type of suturing under tension after excision of pilonidal sinus, has been performed as the wound is closed by the insertion of deep tension sutures, taking wide and deep bites to include to know the possible outcomes. The aim of this study is to provide an alternate surgical method for treatment of pilonidal sinus disease for good approximation of the wound and healing rate through Deep tension suturing after excision of the pilonidal sinus.

### Methods

This is a prospective case control study that was conducted in Department of General surgery in JSS hospital Mysuru. Cases are patients who underwent Deep tension suturing after excision of pilonidal sinus and controls were people who underwent excision and healing by secondary intention. Sample size of 50 dividing equally 25 each for cases and controls.

### Inclusion Criteria

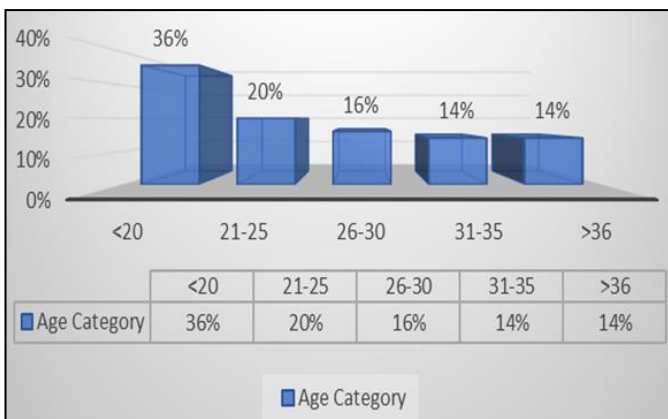
Patient presenting with both primary and recurrent pilonidal sinus Patients with midline (sacroccygeal) pilonidal sinus Patient whose vertical length is more than the width.

### Exclusion Criteria

Pilonidal sinus other than Midline (armpits, interdigital area, etc.)  
Patient lost during follow up  
Pilonidal sinus excision of wound whose width is more than its vertical length along midline

**Results**

Case and control groups were equally distributed, 25 in each group. Maximum number of patients were in their teenage (18/50, 36%). In our study there were a greater number of male patients than female patients (36/14, 72%/28%). Most of the patients presented with Discharge (78%) with sinus (98%). All the patients were given the choice of surgery and are distributed equally and unbiased for the procedure. Patients who underwent Deep tension suturing following excision of pilonidal sinus had a mean healing time of 10.25 days when compared to the healing time of Primary excision and healing by secondary intention with a mean time of 18.57 days. The mean duration of hospital stay was also reduced in the patients who deep tension suturing which was about 6.25 days compared to 8.5 days which was the mean time for patients of the other group.



**Graph 1:** Age Category

**Table 1:** Mean Duration of Hospital Stay

Procedure	Observed
Deep tension Suturing	6.25±2.2 days
Excision	8.5±4.15 days

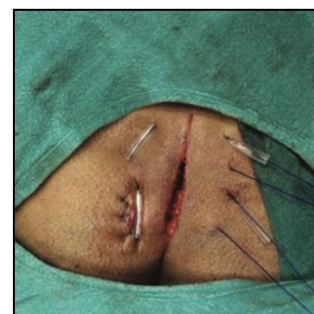
**Table 2:** Mean Duration of Wound Healing Time

Procedure	Observed
Excision	18.57±6.36 days
Deep tension Suturing	10.25±3.38 days

**Discussion**

Pilonidal sinus disease is more commonly seen in Males due to their involved occupation. Other conditions like hair pattern growth and distribution and excess sweating which is more common in males [4]. It occurs mostly in young age groups in teenagers and in second decade. It is seen rarely in patients above 40 years. Seen commonly in people with sedentary life styles [5]. It is common in persons who are sitting for prolonged time and also people who are working with or close to vibrating tools/machinery. Because of continuous discharge or swelling that can occur intermittently patient may seek medical help and present the condition in the OPD with the complaints [6]. The swelling may burst open which can drain pus/seropurulent fluid which can be foul smelling accompanying with hairs. Patients presenting with abscess had pain, swelling and discharge which was increased within a reduced time frame. This disease has high rate of morbidity and also has higher chances of recurrence [2, 7]. Hence any previous intervention causing recurrence makes the patient cure more difficult and hence identifying at the earliest and proper treatment should be advocated to ensure very less chances of recurrence [3, 8]. In our study patient who have presented with midline sacrococcygeal pilonidal sinus are

thoroughly examined and was found that all the patients who presented with the condition had a deep natal cleft. 22 patients (44%) had swelling during presentation, 39 patients (78%) had active discharge present at the sinus area. 49 patients (98%) had a sinus opening. 12 patients (24%) of patients had abscess with pain, swelling, discharge. The most common complication which was seen is infection of the wound site, A total of 6 patients that were operated developed wound infection and of which 5 patients underwent Excision and healing by secondary intention and 1 patient underwent Deep tension suturing after excision of pilonidal sinus. Considering the procedures that were performed, in patients who underwent Deep tension suturing had a recurrence rate of 2% among all patients and 10% seen in patients who underwent excision and healing by secondary intention. Only 1 person of the 25 persons who underwent deep tension suturing had recurrence which was explained due to wound infection. 5 patients who underwent Excision and healing by secondary intention developed recurrence. The duration of hospital stay (6.25 ± 2.2 days) and the Healing time (10.25 ± 3.38 days) with early return to work in people who underwent Deep tension suturing was comparatively lower than Patients who underwent Excision and healing by secondary intention.



**Fig 1:** Application of Deep tension sutures



**Fig 3:** Wound approximated completely



**Fig 3:** Wound after 3 weeks

## Conclusion

Deep tension suturing technique for pilonidal sinus disease is preferred as it has Shorter duration of stay in hospital, Faster recovery time, Early return to work, Less disability during the period of hospitalization, Less risk of exposure to infection than open wound. But this method may be limited to Midline sacrococcygeal pilonidal sinus only, The length of the pilonidal sinus should be more than its breadth or the approximation will be difficult, Can cause iatrogenic foreign material (sutures) in situ to develop infection, Can also cause skin necrosis.

Deep tension suturing is seen effective than Excision and healing by secondary intention due to early return of work and reduced hospital stay.

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