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# **A Comparative Study between Excision and Reconstruction Using Superior Gluteal Artery Perforator Flap and Lay Open in Cases of Recurrent Pilonidal Sinuses**

Thesis

*Submitted for Partial Fulfillment of Master Degree in General Surgery*

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قالوا

سبحانك لا علم لنا  
إلا ما علمتنا إنك أنت  
العليم العليم

صدق الله العظيم

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# List of Abbreviations

Abb.	Full term
ALT.....	Alanine Aminotransferase
AST.....	Aspartate Transaminase
CBC .....	Complete Blood Count
DM.....	Diabetes Mellitus
ECG .....	Electrocardiography
ED.....	Emergency Department
EGF .....	Endothelial Growth Factor
EMC .....	Excision with Midline Closure
GAP .....	Gluteal Artery perforator
HTN.....	Hypertension
IGAP.....	Inferior Gluteal Artery Perforator
INR.....	International Normalized Ratio
IPL.....	Intense pulsed Light
MB .....	Methylene blue
MRI.....	Magnetic Resonance Imaging
MRSA .....	Methicillin-Resistant Staphylococcus Aureus
N .....	Number
NSAID .....	Non-Steroidal Anti Inflammatory Drug
PDGF.....	Platelet-Derived Growth Factor
PN.....	Pilonidal
PND .....	Pilonidal Disease
PNS.....	Pilonidal Sinus
pPS.....	Primary Pilonidal Sinus
PSD.....	Pilonidal Sinus Disease
PSIS.....	Posterior Superior Iliac Spine
PT .....	Prothrombin Time
PTT.....	Partial Thromboplastin Time
rPS.....	Recurring Pilonidal Sinus

# List of Abbreviations cont..

Abb.	Full term
SGAP .....	Superior Gluteal Artery Perforator
SPSD .....	Sacrocygeal Pilonidal Sinus Disease
TGF-b .....	Transforming Growth Factor-b
UK .....	United Kingdom
VAC .....	Vacuum Assisted Closure
VEGF.....	Vascular Endothelial Growth Factor
WW II .....	World War II

# INTRODUCTION

Pilonidal sinus is a small hole or tunnel in the skin at the top of the buttocks, where they divide (the cleft). It does not always cause symptoms and only needs to be treated if it becomes infected. It may fill with fluid or pus, causing the formation of a cyst or abscess. A pilonidal cyst usually contains hair, dirt, and debris. It can cause severe pain and can often become infected. If it becomes infected, it may ooze pus and blood and have a foul odour (*Ferri, 2017*).

About 3 per 10,000 people per year are affected, and it occurs more often in males than females. Young adults are most commonly affected. The term "pilonidal" means "nest of hair. The condition was first described in **1833**. The exact cause of this condition isn't known, but its cause is believed to be a combination of changing hormones (because it occurs after puberty and typically does not occur after 45 years of age), hair growth, and friction from clothes or from spending a long time sitting (*Khanna and Rombeau, 2011*).

Risk factors include obesity, family history, prolonged sitting, greater amounts of hair, and not enough exercise. It's also more common in people who sit a lot, like cab or taxis drivers. It's most commonly affects Caucasian males with coarse dark body hair. The underlying mechanism is believed to involve a mechanical process. The lesions may contain hair and skin debris (*Khanna and Rombeau, 2011*).

Diagnosis is based on symptoms and examination. It is often difficult to distinguish pilonidal sinus from other anorectal conditions, such as a perianal fistula. Yet the main distinguishing feature is that a pilonidal sinus opens up onto the skin, but does not communicate with the anal canal like a fistula; this distinction can often be identified with rigid sigmoidoscopy. Extensive sinus formation and fistulisation may be assessed by MRI scanning of the natal cleft and buttocks, but further imaging is rarely necessary (*Lee et al., 2000*).

Its pathophysiology is complex and far from understood. Although, the most widely accepted theory for pilonidal sinus disease development is starting from a hair follicle in the intergluteal cleft becoming infected or inflamed. This inflammation obstructs the opening of the follicle, which extends inwards, forming a pit (a characteristic feature of pilonidal sinus disease). A foreign body-type reaction may then lead to formation of a cavity, connected to the surface of the skin by an epithelialised sinus tract (*Lee et al., 2000*).

Pilonidal disease does not always require surgical management. Conservative treatment of a PNS involves shaving the affected region and plucking the sinus free of any hair that is embedded. Any accessible sinuses can be washed out with water to prevent infection. Whilst antibiotics can be used in septic episodes, although any abscess present will require surgical drainage (*Lee et al., 2000*).