



# The Negative Appendicectomy Rate (NAR): a new gender gap?

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# Background

- ◆ NAR = proportion of histologically normal appendices surgically removed in patients with suspected acute appendicitis.
- ◆ Acute appendicitis is common – lifetime prevalence of ~7%
- ◆ Historically, NAs are more common in young female patients due to mimicking gynaecological pathology.
- ◆ NA associated with significant financial and clinical burden
- ◆ Increased use of pre-operative imaging in recent years to aid diagnosis.

# Aims

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1. Establish the NAR at a large scottish DGH
2. to compare rates between men and women
3. to explore the factors which may account for a gender gap in the NAR.

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# Methods

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Inclusion criteria: All patients undergoing emergency appendicectomy at our centre during a 1 year period.

CHI numbers obtained from OPERA were then used to perform a retrospective data collection from computerised case notes.

Rates of NA, pre-op imaging and surgical technique were calculated and split by gender for comparison.



# Results

146 patients were taken for appendicectomy over a 1 year period at our centre.



Normal Appendix on histopathological analysis (n=15).  
Normal appendix on gross examination - did not proceed: (n=5)



6 excluded as non-emergency cases.  
N = 140 evenly split by gender (70 males, 70 females.)

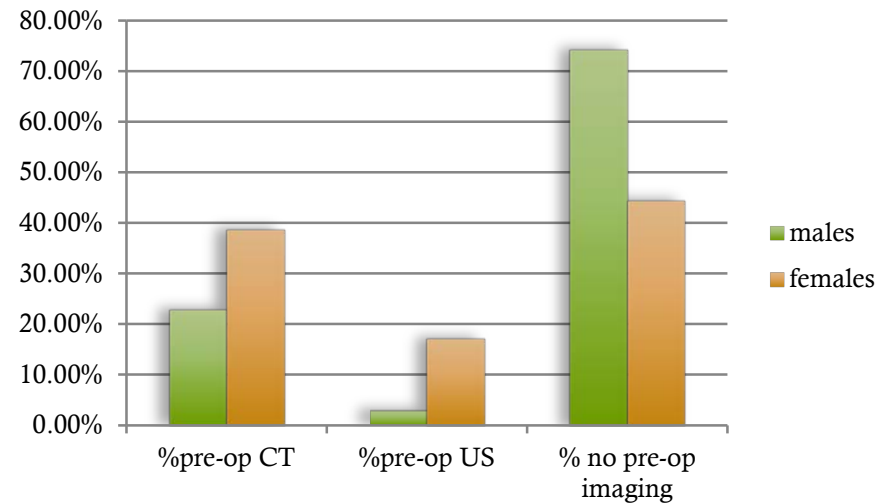
**Negative Appendicectomy Rate: 10.7%**



# Results

	Males	Females
No. of patients:	70 (50%)	70 (50%)
No. of NA's:	9 (12.8%)	6 (8.6%)
<b>Pre-op imaging</b>	<b>25.8%</b>	<b>55.7%</b>
Lap procedure	68.6%	84.3%
Conv. from lap to open	8.6%	5.7%

**Pre-op imaging split by gender**

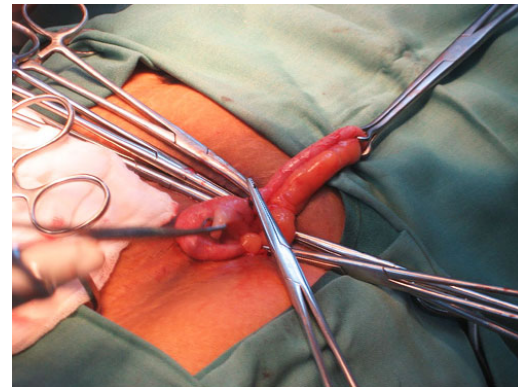
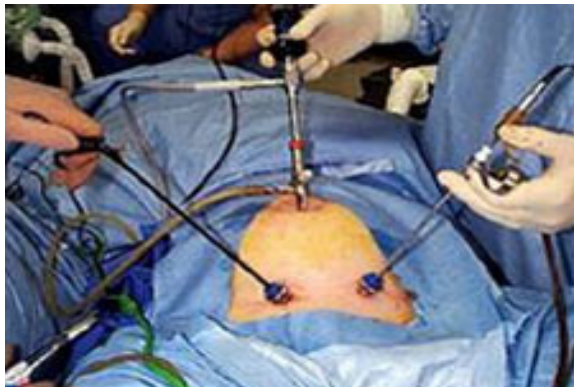


# What does all this mean?

- ◆ Increased awareness of mimicking gynaecological causes in female cohort?
- ◆ Role of pre-operative imaging in diagnosis of acute appendicitis.
- ◆ Males more likely to be taken to theatre based on clinical decision alone and to undergo an open procedure
- ◆ Are we doing male patients a disservice?

# Recommendations:

- ◆ considering pre-op imaging in both males and females presenting with suspected acute appendicitis where the diagnosis is equivocal.
- ◆ considering a diagnostic laparoscopy in both male and female patients where the diagnosis remains unclear





# Financial burden of imaging?

- ◆ Pelvic USS vs CT
- ◆ Value of Pelvic USS in the diagnosis of acute appendicitis?
- ◆ Limited to cases of diagnostic uncertainty
- ◆ Pre-op imaging cost effective when compared to burden of unnecessary surgical intervention and associated prolonged hospital stay.



Figure 3. Abdominal CT scan showing appendicitis.

