

## Introduction of Continuous Local Anaesthetic Infiltration Devices as part of a multi-modal analgesic regime – Setting up the service I Sisley, V Yates, D Addison.

### Introduction

Use of wound soaker catheters have become a valuable tool in the provision of multimodal opiate sparing analgesia. Connection to an elastomeric pump provides the additional benefit of improving safety, patient independence and mobility. Having seen the benefit of local anaesthetic wound soakers in pilot studies at our hospital in 3 large categories of patients, we set up a service for the provision of these devices as part of the routine post-operative analgesic regime for these patients.

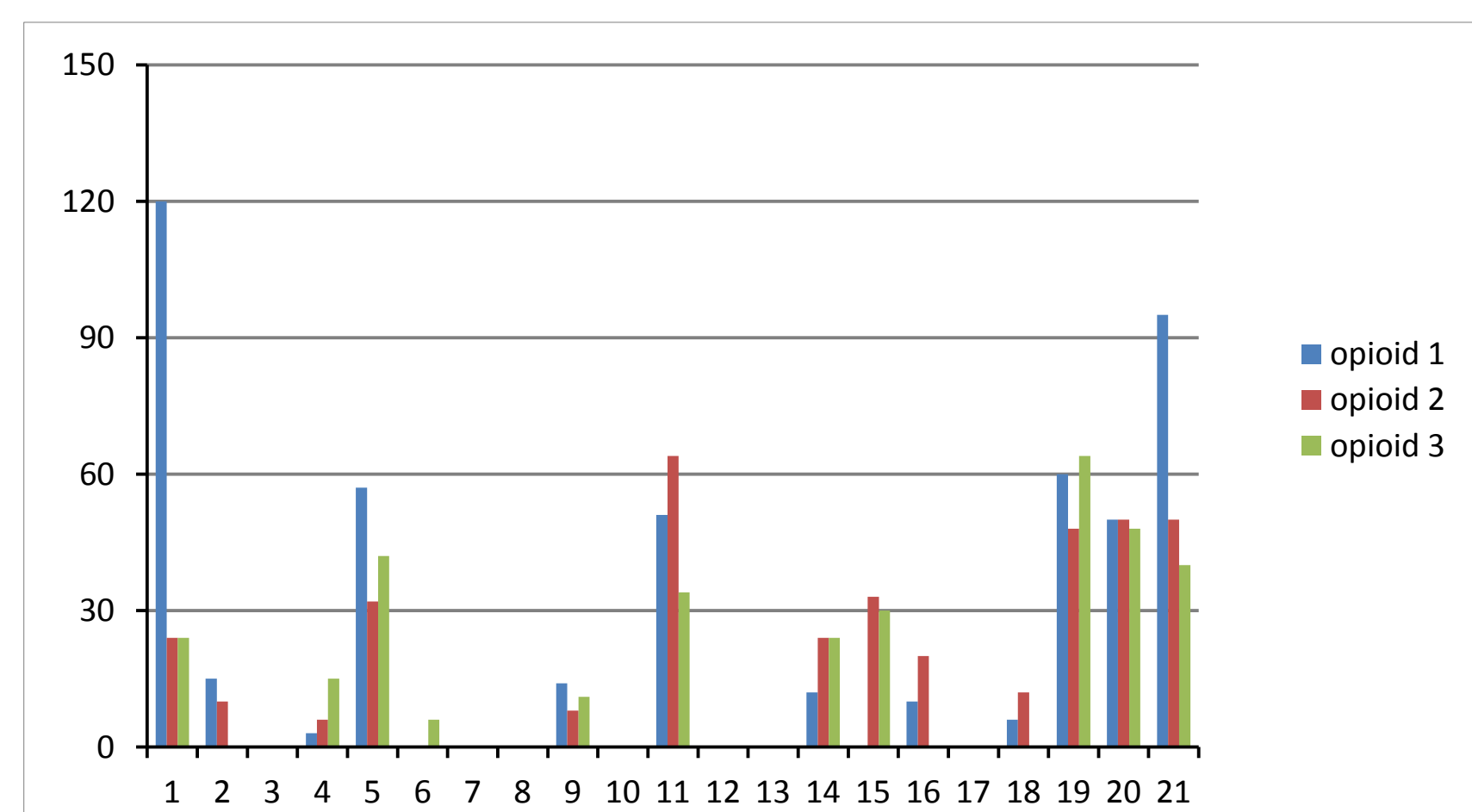
### Pilot Studies

We assessed the impact of local anaesthetic wound infusers on the recovery of patients in the following categories:

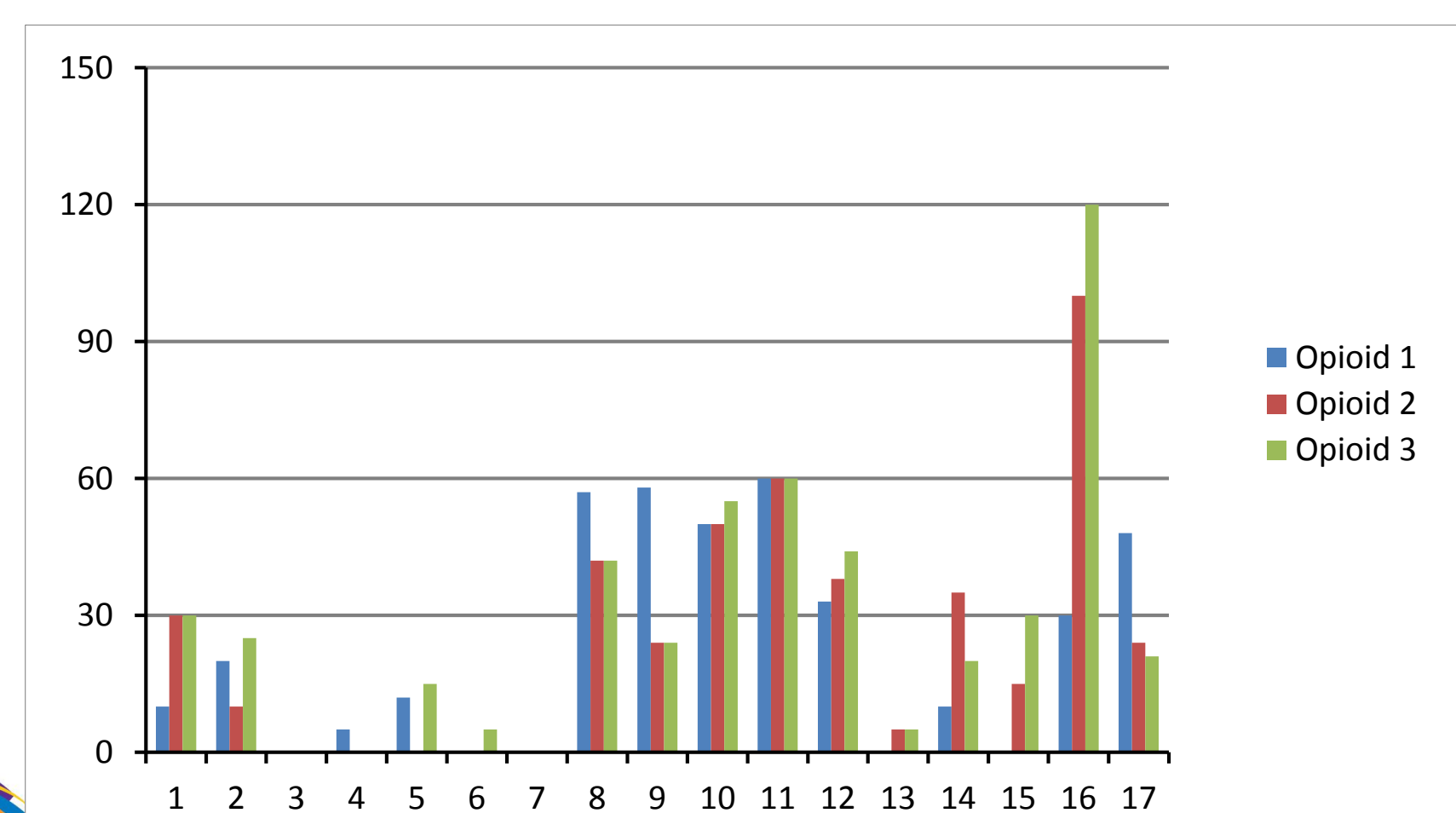
- Urology : Radical retropubic prostatectomy and Laparoscopically assisted nephroureterectomy
- Vascular: Nerve sheath catheters for Above and Below knee amputations
- Colorectal: Lower midline laparotomy

We compared length of stay, opiate consumption, patient reported effectiveness, and time to mobilization with that which would be expected with conventional analgesic techniques.

Graph 1: opiate use (morphine equivalent in mg) on days 1, 2 and 3 after AKA



Graph 2: opiate use (morphine equivalent in mg) on days 1, 2 and 3 after BKA



### Results

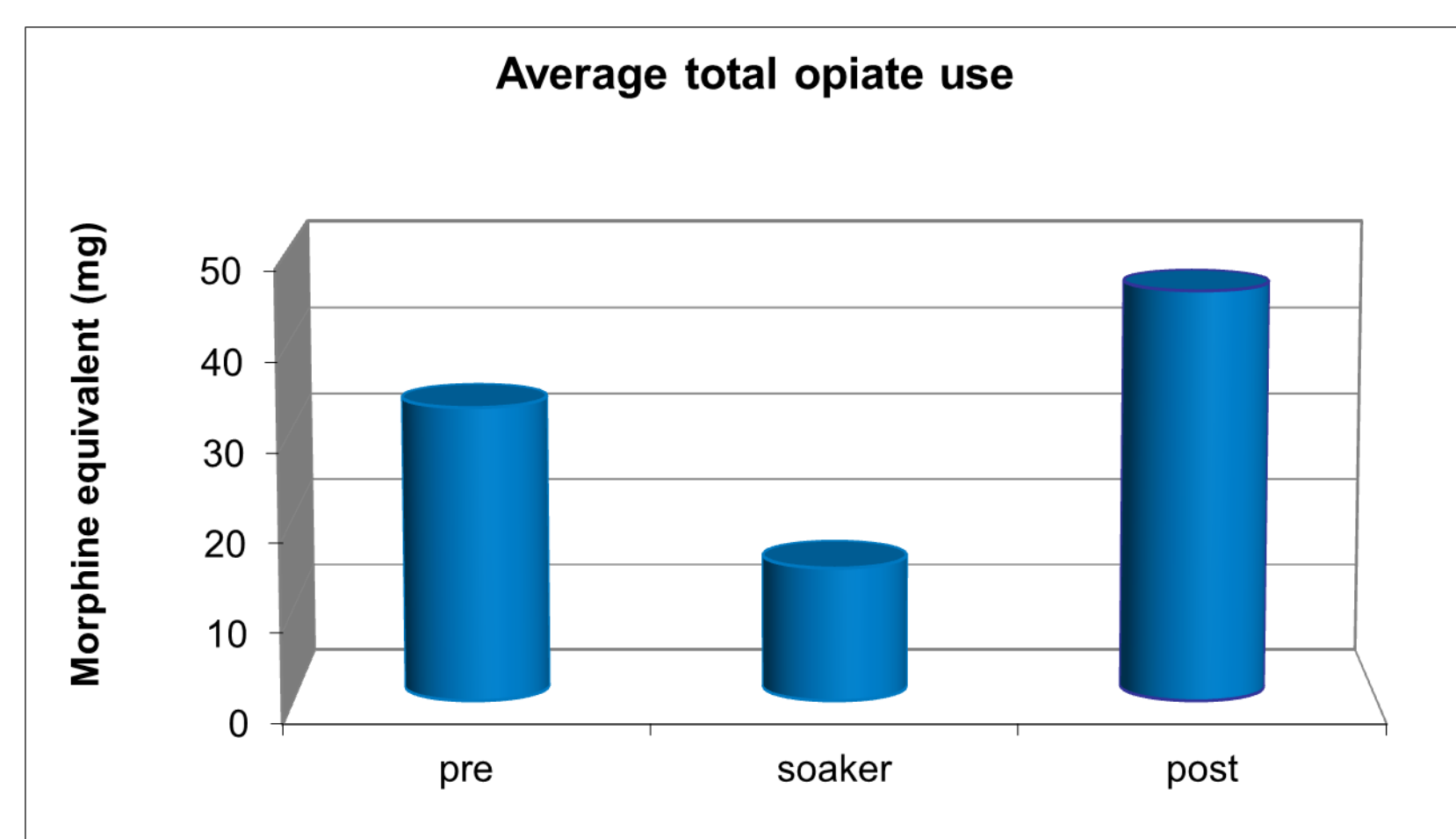
In all categories we found that patients reported a benefit from the local anaesthetic infusion, and noticed the difference when it had finished and been removed.

Whereas all categories of patients demonstrated a degree of improved mobilization post operatively, this was most marked in the vascular patients, who were almost universally able to mobilise on day 1, which vastly improved the physio and occupational therapists' ability to commence treatment and rehabilitation.

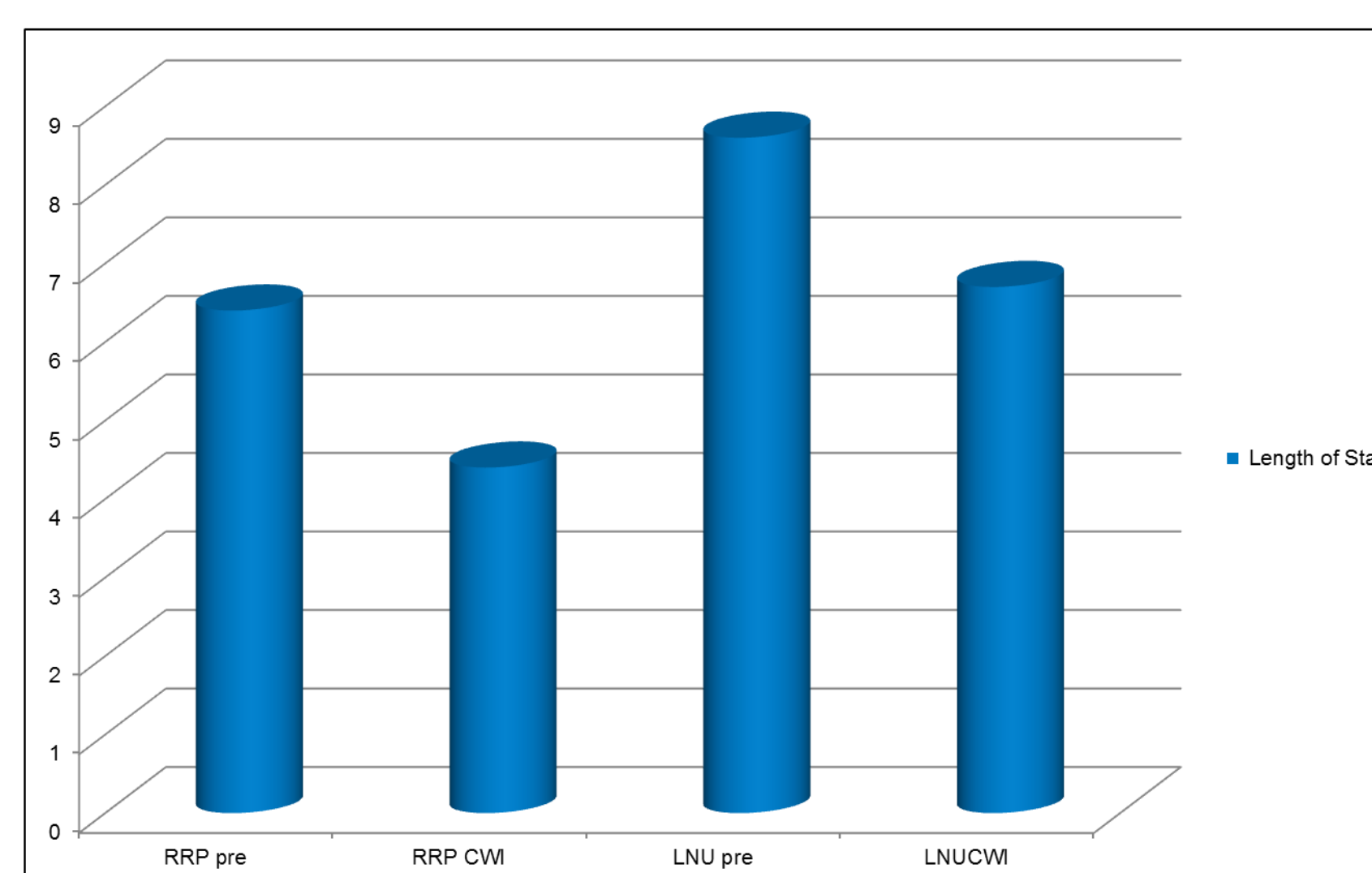
Opiate consumption again was reduced in all categories, and this can be demonstrated in the below graphs (1, 2 and 3). The benefits of opiate sparing, whilst apparent in all groups, is most obvious in the vascular patients, as they often have comorbidities that cause them to be intolerant or over-sensitive to opiates.

Length of stay was consistently reduced in the urology patients, with an overall mean reduction of 2.1 days for the RRP's, and 1.8 days for the nephroureterectomies (see graph 4). Although there was no demonstrable change in the length of stay for the colorectal or vascular groups, these are far more heterogenous groups of patients with higher rates of post-operative complications, so the impact on recovery time is unsurprisingly harder to demonstrate.

Graph 3: Average total opiate use after Radical Prostatectomy pre-pilot study, during pilot with a wound soaker, then post pilot study with no soaker.



Graph 4: Length of stay pre/post introduction of continuous wound infusers (CWI) for prostatectomy (RRP) and lap-nephroureterectomy (LNU)



### Setting up the service

Having seen the impact of the devices from our pilot studies, we proceeded to set up the service for routine use. This involved constructing a business case, agreeing prices for the devices with the supplying company, agreeing budget and funding with service managers and gaining support from pharmacy for filling the devices. Following this we provided training and support for anaesthetists, surgeons, theatre and recovery staff, and training for ward nursing staff.

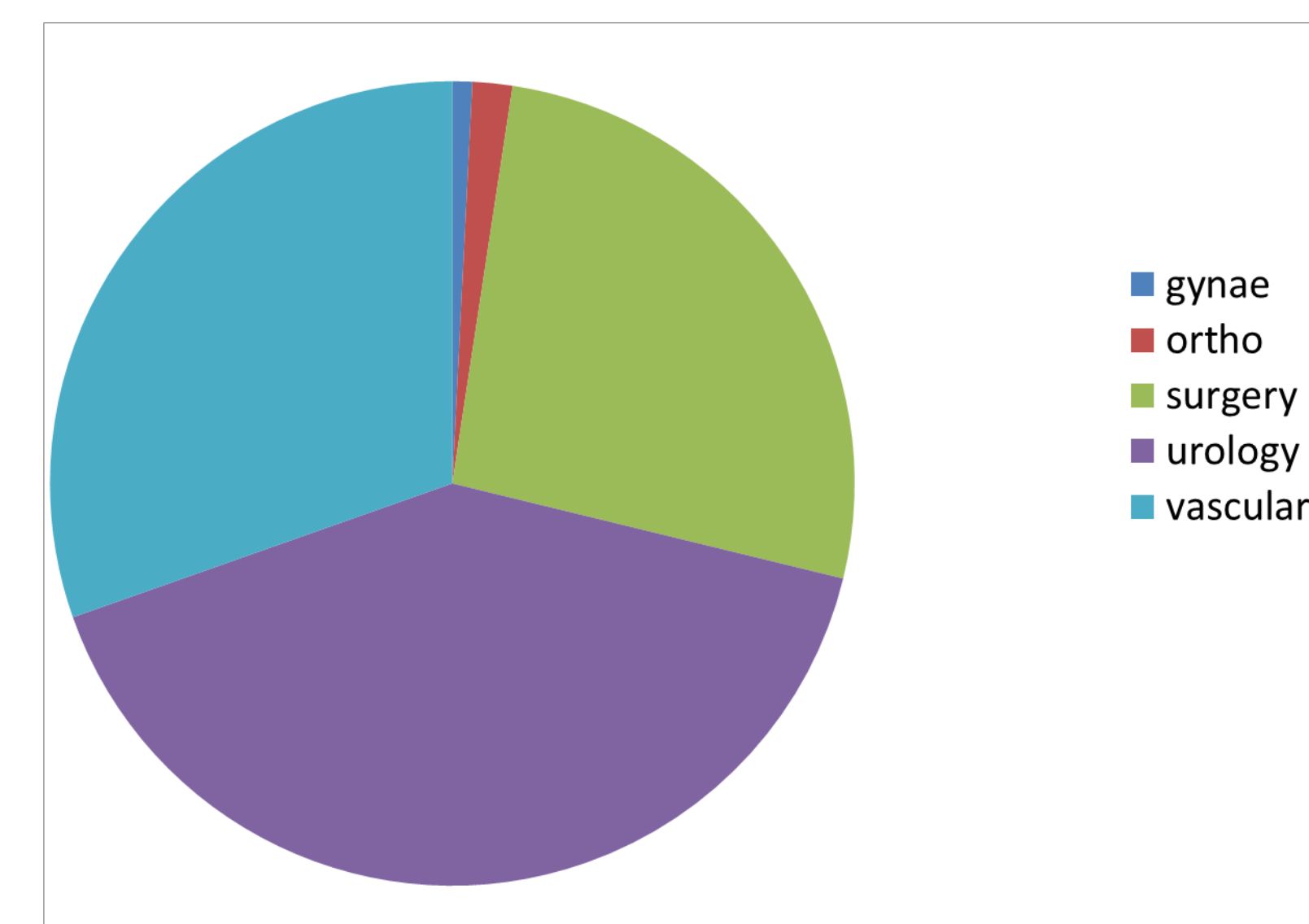
### Audit

Once up and running we have continued to provide ongoing support and audit. Please see below some data on usage over the last year:

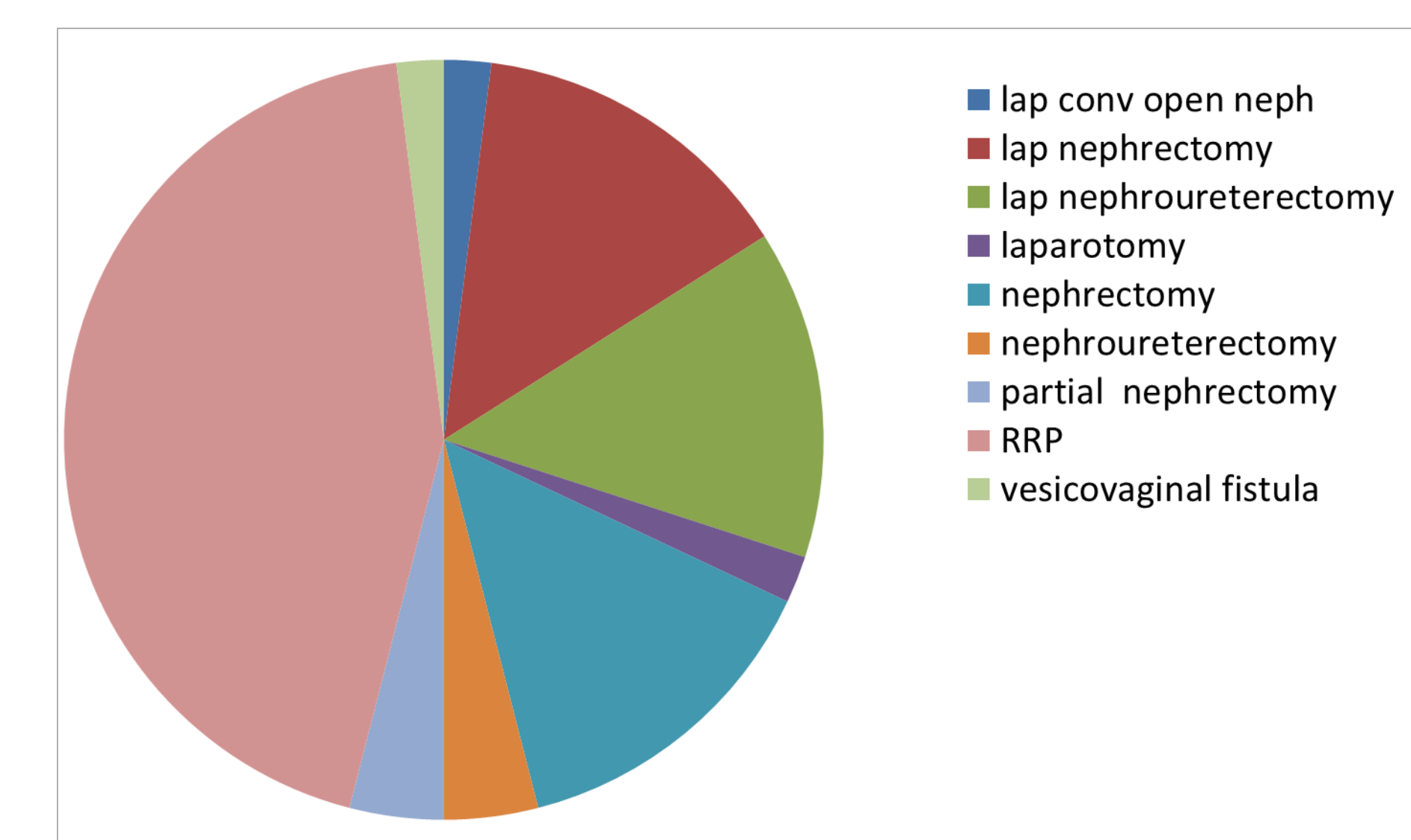
Total number of cases: 126

Number of adverse events related to dosifusor use: 0

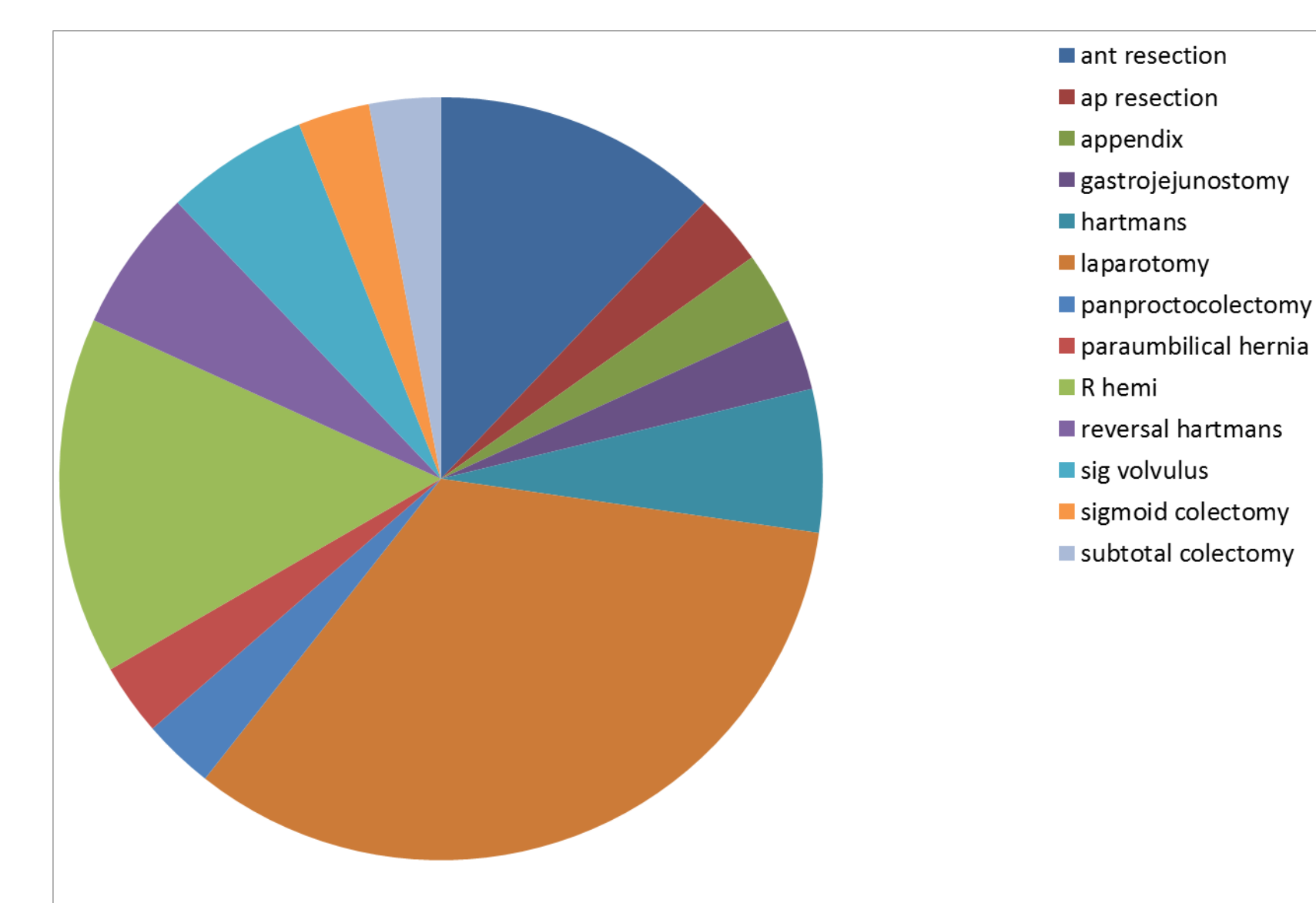
Graph 5: Distribution of use across specialties



Graph 7: Distribution of use in urology



Graph 6: Distribution of use in general surgery



### Expanding the service:

- Bilateral rectus sheath catheters are now more commonly inserted for lower midline incisions with anecdotally better efficacy.
- There are plans to expand the service to include major gynaecological oncology cases.
- The quality and safety of this service continues to be audited and acted upon, demonstrating ever increasing use and demand, and consistently high patient satisfaction.

