

# Lower Limb Amputation: Working Together at Freeman- Audit of NCEPOD Guidelines from an Anaesthetist's Perspective



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## Introduction

The scale of the problem:

- Peripheral arterial disease (PAD)
  - Affects 20% adults in Europe and North America over 55
  - In the UK 500,000 to 1 million patients have PAD, 1-2% of these require amputation
- The rate of Major Lower Limb Amputation (MLLA) is 8-15% in people with diabetes with up to 70% dying <5 years of surgery
- 12-22% die within 30 days of operation, at 1 year 38-48% die.
- Incidence of diabetes is increasing in the general population; this is one of the leading causes of peripheral vascular disease.
- Peri-op cardiac complications are the leading cause of mortality and morbidity following surgery highlighting the importance of optimisation with appropriate medical specialty support prior to surgery
- With the above in mind, VSGBI proposed NCEPOD undertake a study to assess overall quality of care received

### NCEPOD Report, Nov 2014

- Delays in referral, review, decision to operation time.
- Surgery carried out during out of hours or in emergency theatre.
- Co-existing medical conditions were common
- Blood Sugar was often poorly managed
- Pain often poorly managed
- No early physiotherapy

## Aims

To identify whether our institution complies with specific NCEPOD recommendations for Major lower limb amputations (MLLAs), within the perioperative setting.

### Standards Audited

- Greater use of dedicated vascular lists for surgery
- Surgery on planned operating lists within 48 hours during normal working hours
- Anaesthetic must be given by a senior Anaesthetist (Cons or post fellowship trainee with Cons available)
- Improved analgesia

## Methods

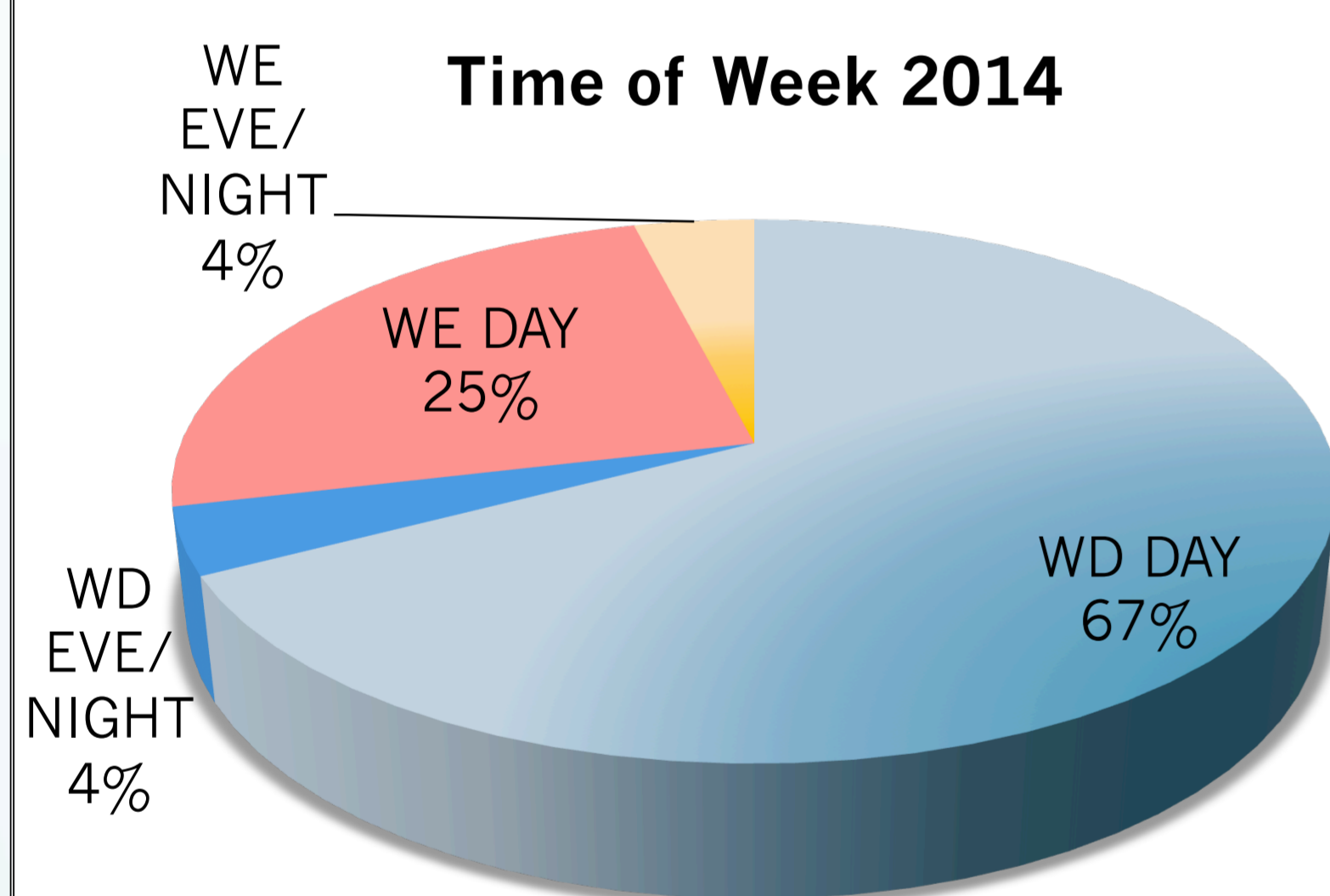
Retrospective audit of all adult patients who underwent MLLAs (above and below knee) within a 6 month period in 2014 and repeated in 2016. Data was gathered from hospital notes and electronic records. The following information was collected:

- Whether the procedure was classed as elective or emergency,
- Time and date of procedure,
- Date of decision to amputate
- level of seniority of anaesthetist,
- pain score in recovery

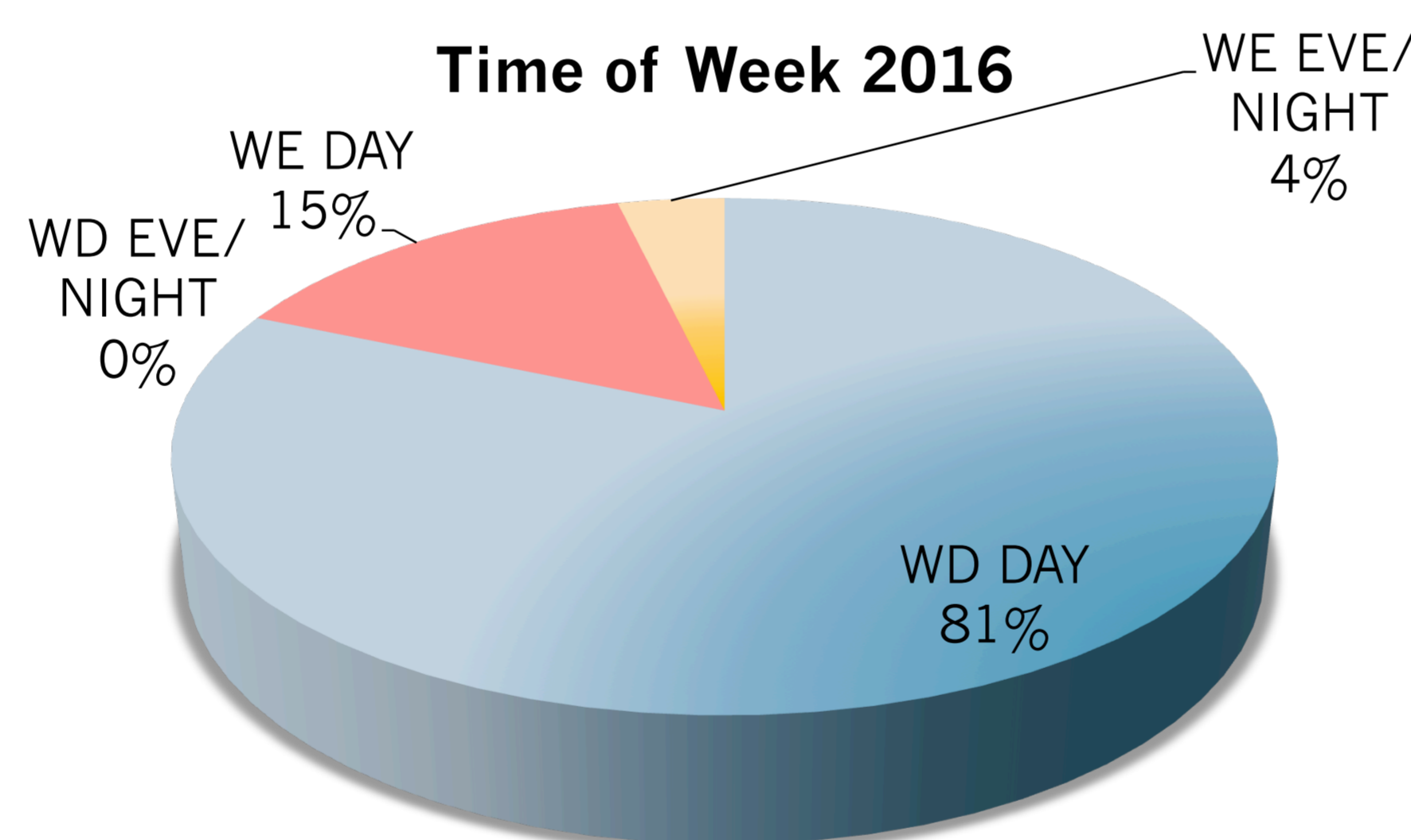
Results from the first audit were presented at a joint anaesthetic and vascular clinical governance meeting to increase awareness of NCEPOD recommendations and suggest improvements.

## Results

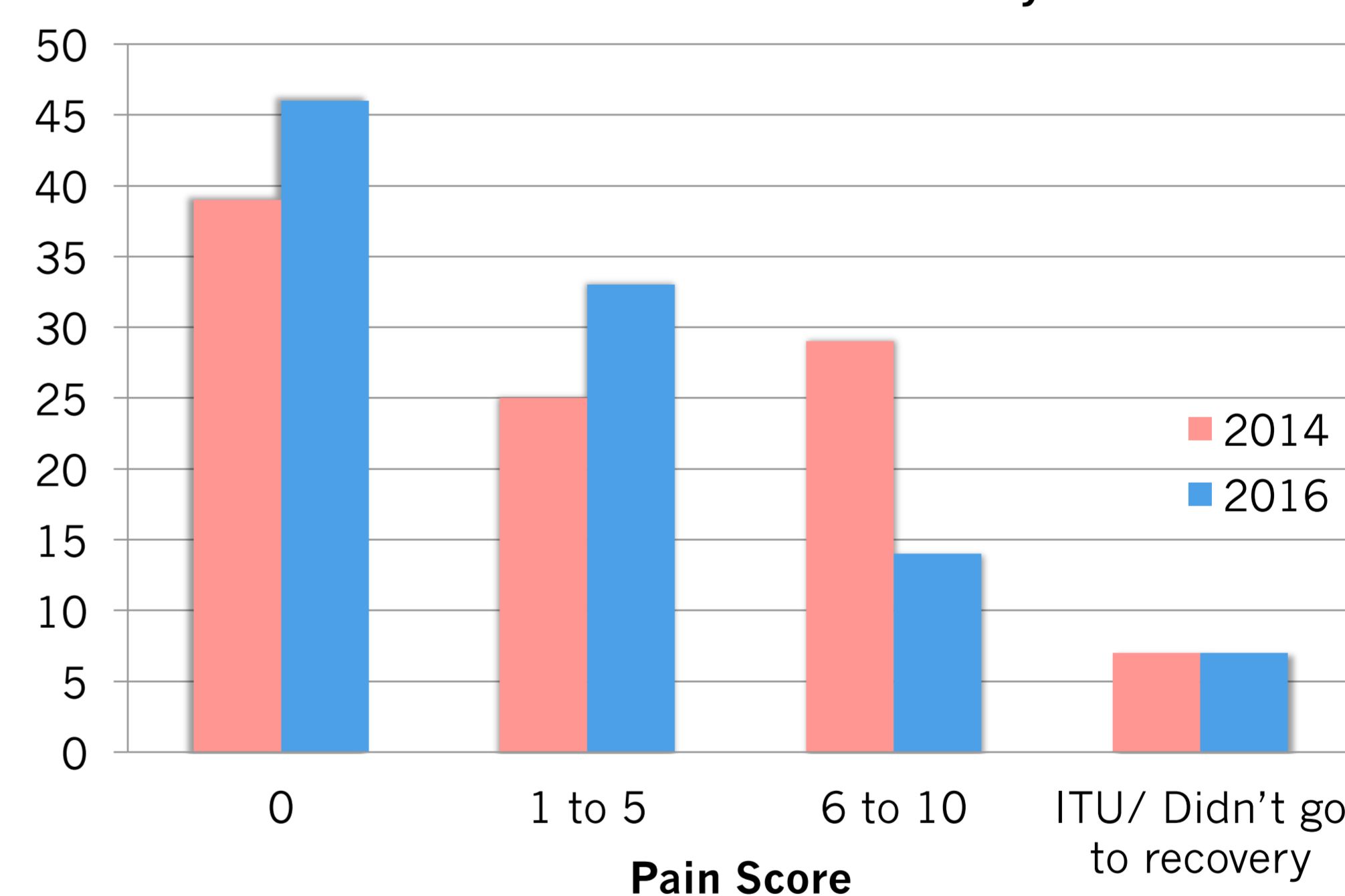
- 27 patients were included in 2016 and there were 28 patients included in 2014
- 37% of MLLAs were carried out in emergency theatre in 2016 compared to 50% in 2014
- 93% of MLLA patients were anaesthetised by a consultant anaesthetist and 7% by post fellowship trainee in 2016 compared to 79% Consultant Anaesthetist, 11% senior registrar, and 11% junior SpR previously in 2014
- Surgery within 48hrs of documented decision occurred only 50% of the time in 2016.



WE= Weekend  
WD= Weekday



### Pain Scores in Recovery



## Conclusion

There was 100% compliance with regard to seniority of anaesthetist in 2016

More amputations were carried out during normal working hours on weekdays in 2016 compared to 2014

Only 4% were carried out during evening/night time in 2016

There were improved pain scores in recovery- this may be as a result of recent introduction of a block room and therefore greater use of nerve catheters and nerve blocks.

There may have been many reasons to account for the reason why only 50% of MLLAs were carried out within 48hrs of decision to operate. These may include the following:

- Lack of availability of elective theatre slot
- Uncertainty regarding decision to operate either by patient or surgeon
- Other urgent/ emergent cases taking priority on emergency list
- Patient may need medical optimisation prior to surgery leading to delays

**Overall there was an improvement with adherence to the NCEPOD recommendations audited. Pain scores in recovery were much improved so it would be interesting to explore this in more detail particularly regarding whether current techniques for post operative analgesia have led to this improvement and also the efficacy of pain relief in the first few post operative days not just in recovery.**

## References

- Lower Limb Amputation: Working together, NCEPOD report 2014
- A best practice clinical care pathway for Major Amputation Surgery, VSGBI, 2016