5th ERAS UK Conference

Advances in Pain Management

Jayne Balson
Advanced Nurse Specialist Pain Management
Western General Hospital
Edinburgh


Accelerated recovery
Pre-op information
Optimised organ function
No nutritional deficits
No alcohol pre-op
Stop smoking pre-op
Neuraxial blockade
Minimal invasive operation
Normothermia
Nausea prevention
Ileus prevention
Early feeding
Good oxygenation
Good sleep
Opioid sparing
EB post-op care
Anxiety, fear
Pre-op organ dysfunction
Surgical stress response
Hypothermia
Semi starvation
Hypoxaemia
Poor sleep drains, tubes
Catheters
PAIN
Delayed recovery

Optimal analgesia

- Earlier mobilization
- Reduced organ dysfunction
- Reduced stress response
- Earlier nutrition
- Earlier discharge

Multimodal analgesia

Achieved by combining different analgesics that act by different mechanisms, resulting in additive or synergistic analgesia with lowered adverse effects of sole administration of individual analgesics

Kehlet H, Dahl JB. Anesthetic Analgesia 1993 77: 1048-1056

Western General Hospital

- Large colorectal unit >450 per year
- Large urology unit

Western General Pain Team

3 nurses
3 consultants
Pharmacy
Physiotherapy

Achieving the balance

- Laparoscopic surgery
- Negates need for epidural

But

- Continue to opioid spare
- Creative approach using local anaesthetics and systemic analgesics

WGH "*guideline*"

- Intrathecal/spinal
  - Diamorphine & bupivacaine
- IV lidocaine
- PCA morphine or fentanyl *(24hours)*
  - Dose find and convert to oral/patch
- NSAID
- Paracetamol
- Consider stepdown & downward titration

Intrathecal opioid

- Pre-op
- Diamorphine dose consideration
  - “Relief or grief”
- Side effects

Epidural

- 1-5 days great analgesia
- ?mobilisation
- Reduced opioid use
- Reduced stress response
- Reduction of ileus

BUT…

- 1/3 failure rate?
- Potential for serious complications
- Hypotension/fluid overload

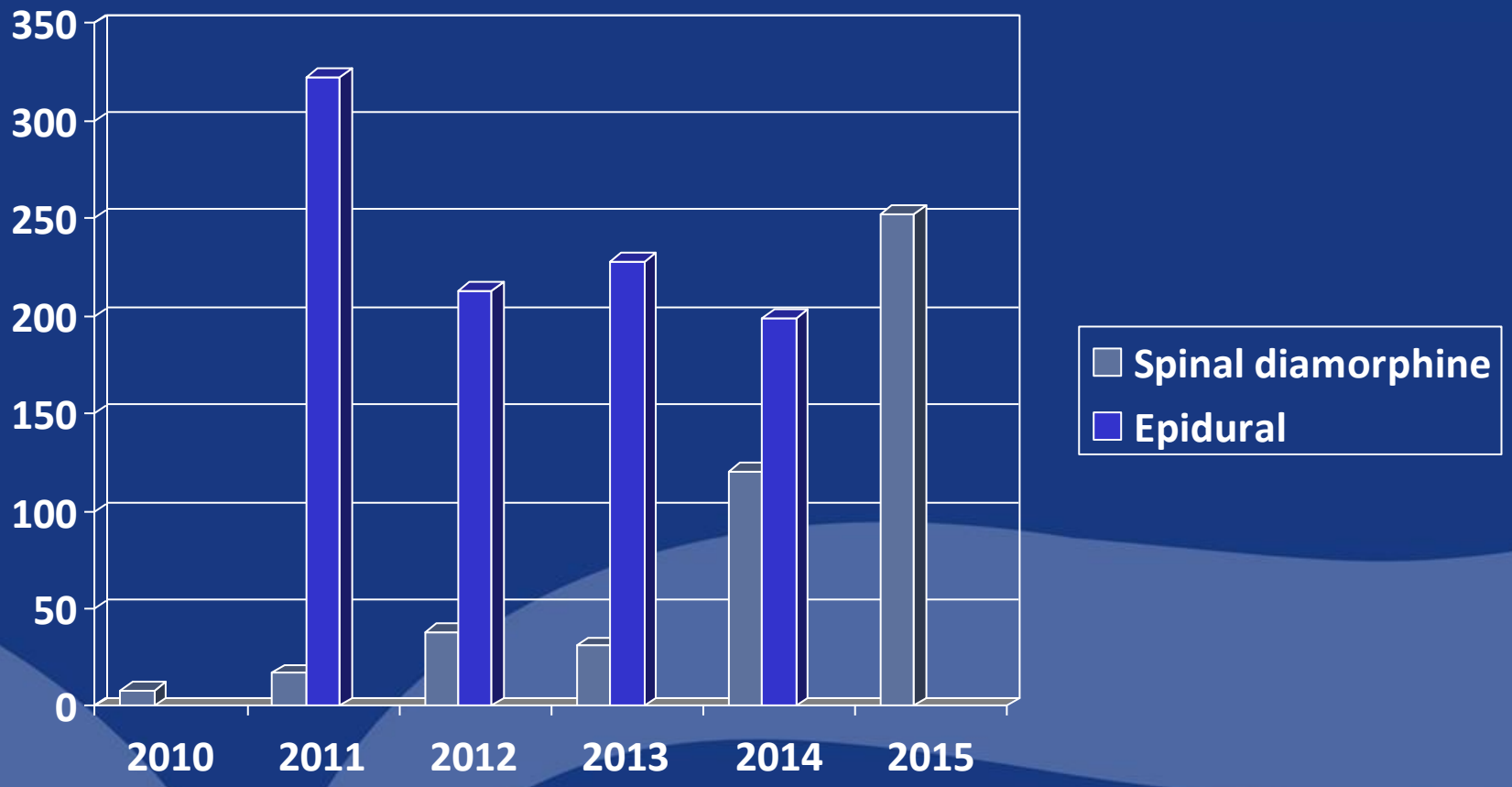
Spinal

- 12 hours
- No issues with mobilisation
- Reduced opioid use
- Reduced stress response
- Reduction of ileus

AND…

- More predictable
- Lower risk major complications
- CVS stability post-op

Western General



IV Lidocaine for Major Colorectal Surgery

Inclusions

ASA 1, 2, 3
Aged 18-90 yrs
Colorectal Resection
(Elective) Cases

Exclusions

Allergy to LA
*MI in last 6 month
Deranged LFTs / Clotting
Epidural
Pregnancy / Breast-Feeding
eGFR <30mL/min

(Inclusion/exclusion tight in initial audit phase 120 patients)

2% Lidocaine

1.5mg/kg bolus (over 20 min)
If <70kg – 3mL/hour (60mg/hour) for 12 hours
If ≥70kg – 6mL/hour (120mg/hour) for 12 hours

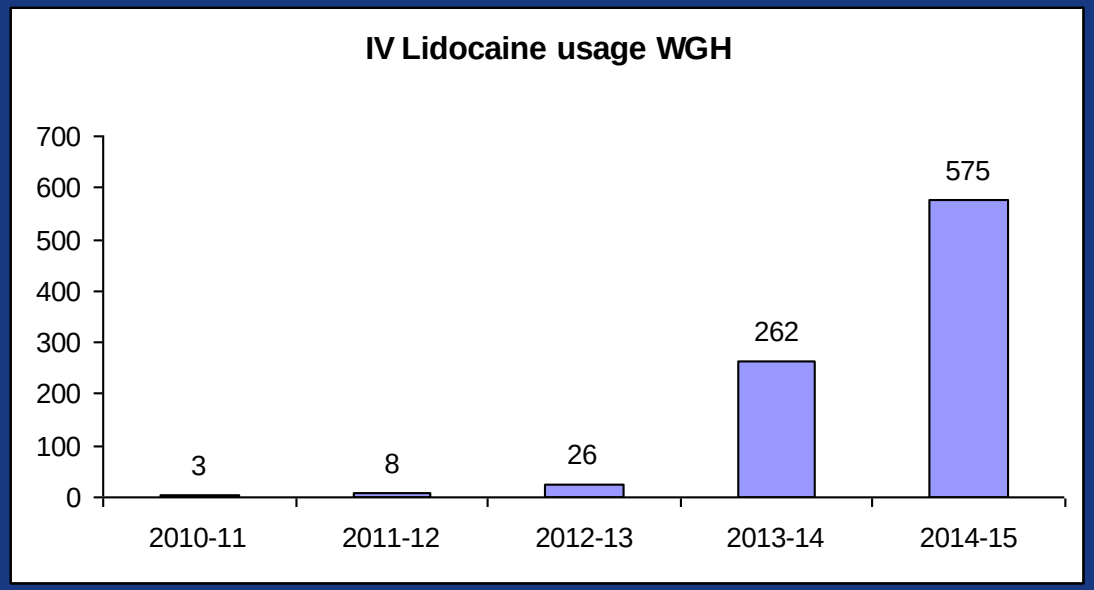
SHDU for duration of infusion

Assessment of safety, pain scores, bowel function, Quality of Recovery

Why Fixed Dose?

- To minimise human error
- PCA pump used – programmed for
    - Low dose (3mL/60mg/hr)
    - High dose (6mL/120mg/hr)
- PCA giving set
    - Anti –syphon
    - Anti-reflux
- Locked/Anti-tamper

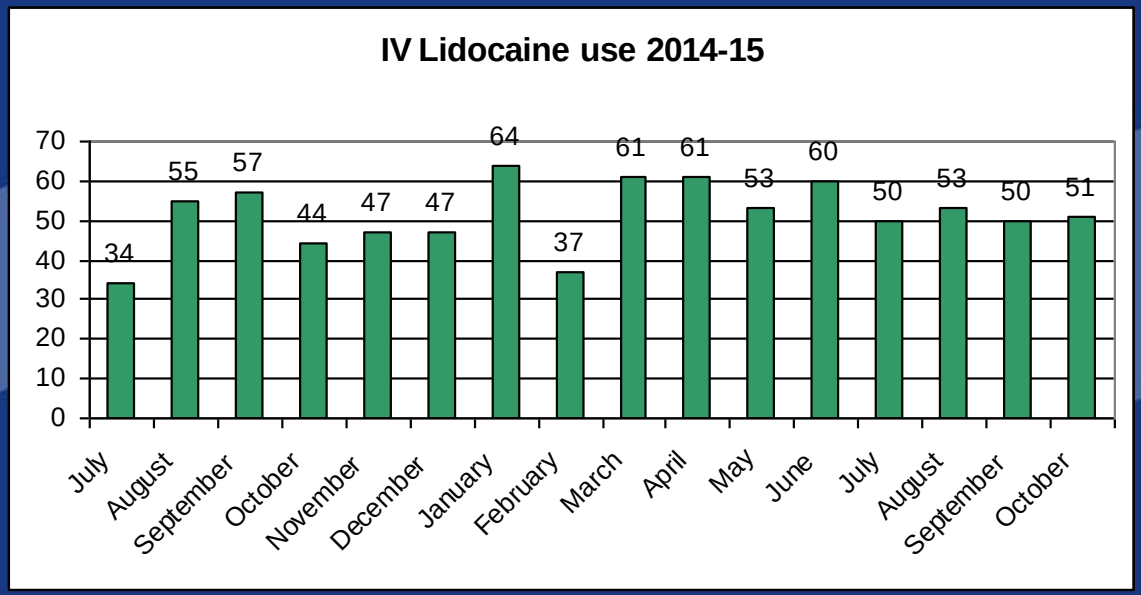
IV Lidocaine usage at WGH



To date

Number of IV lidocaine

1,246 patients (2/11/15)



Safety Data

Adverse Event	Number
Numbness / Tingling	4
Tracking (redness) up vein	3
Low blood sugar	1
Hypertension (relieved by catheterisation)	1
Dystonic reaction (not helped by intralipid)	1

7 adverse events out of 1,246 IV lidocaine infusions to date

(6 in recovery room, 1 on HDU)

Quality of Recovery

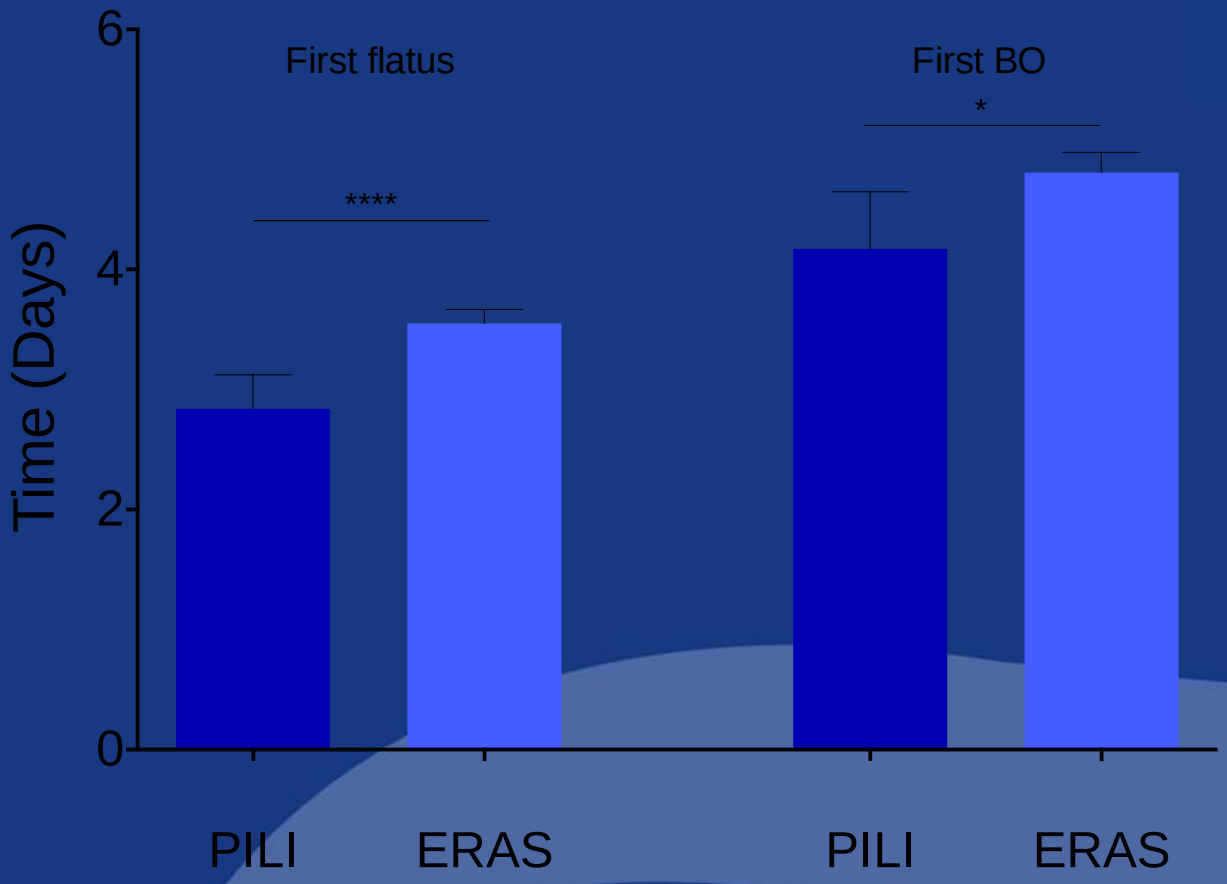
- Quality of Recovery-40 Questionnaire, (QoR-40)
  - 5 dimensions: (patient support, comfort, emotions, physical independence, pain)
  - Maximum score 200

	QoR – 40 Score (median)		p Value
	Lidocaine	Non-Lidocaine	
Total	176 (n=28)	166 (n=28)	**p = 0.0251**
Laparoscopic	175 (n=10)	159 (n=9)	p = 0.48
Open	182 (n=18)	168 (n=19)	**p = 0.0352**

Small significance but only 112 patients

Paterson et al, 2014

Return of Bowel Function



Based on 127 perioperative lidocaine infusions (12 hours)

Craven et al, 2015

Patient controlled analgesia (PCA)

- Morphine or fentanyl
- Ideally 24 hours and then step down to
  - Fentanyl patch
  - Oxycodone MR
  - Tramadol
  - Regular (if necessary) plus as required
- Paracetamol +/- NSAID

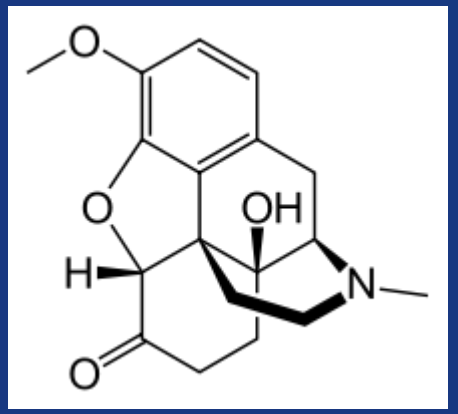
And beyond……

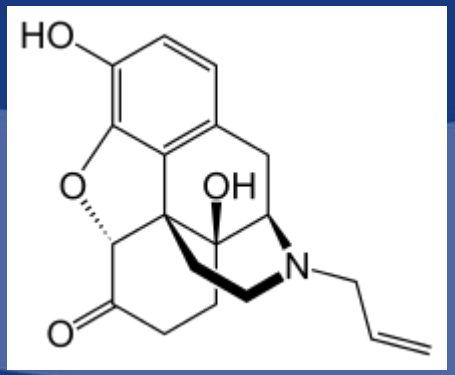
- Targinact ®
- Alvimopam
  - **MethylNaltrexone**
  - **Linaclotide**
- **Liposomal bupivacaine**
- **Ionsys (fentanyl transdermal PCA)**

Targinact®
Oxycodone/naloxone

Constipation was significantly relieved in a 2008 study.[1]

No acute license (restless legs)
No SMC approval
TACS project WGH

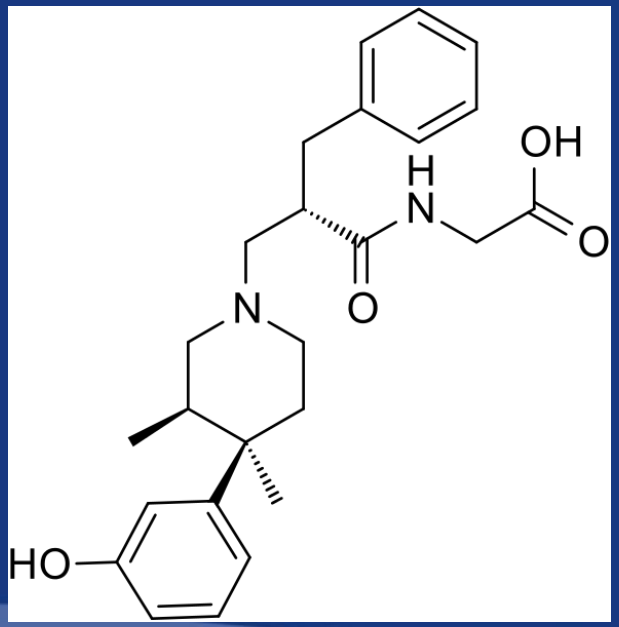




Simpson K, et al. (December 2008).
*Curr Med Res Opin **24** (12): 3503–3512.*

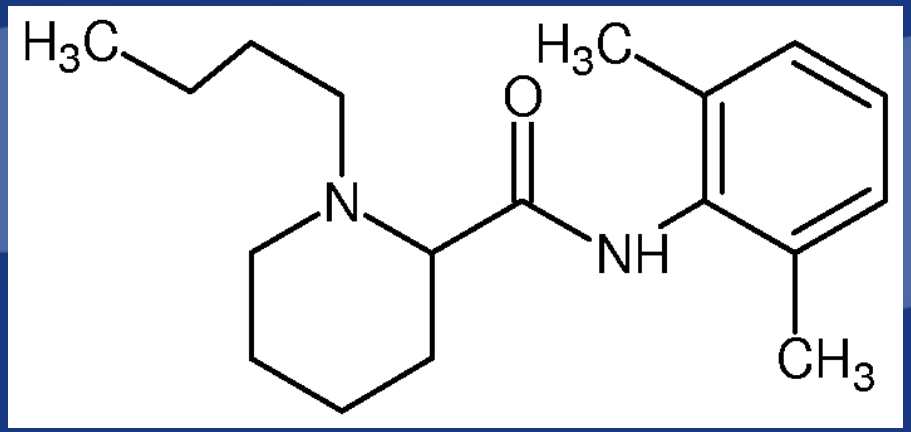
Alvimopam

peripherally acting μ-opioid antagonist. With limited ability to cross the blood–brain barrier, many of the undesirable side-effects of the opioid agonists such as constipation are minimized without affecting analgesia or precipitating withdrawal



Liposomal Bupivacaine

- Up to 96 hours action
- Most useful in orthopaedic or rectus sheath blocks



Ionsys®

fentanyl iontophoretic transdermal system

Fentanyl PCA

- Frees patient from infusion
- Recommended for approval UK
- FDA approved