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Subcut / IV PCA *The Debate*

**In October 2009
I joined KCH.
Subcut PCA!**

Effective.

**Nausea?
Vomiting?**



Subcut / IV PCA *The Debate*

Pharmacokinetics of morphine after S/C & IV boluses.

Stuart-Harris et al 1999

The mean values for C_{max} , AUC, CL and V_d after s.c.b. were very similar to the respective parameters for i.v. administration.

The median t_{max} after s.c.b. morphine was significantly longer than after i.v. morphine (0.25 vs 0.08 h, $P < 0.001$).

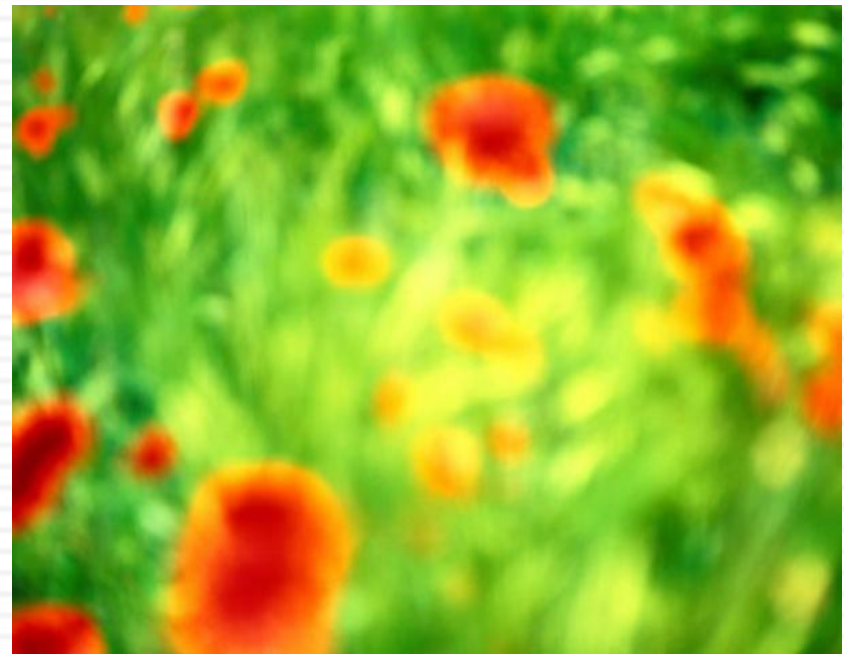
Nevertheless, this difference was relatively small and may not be significant clinically.

Pharmacokinetics/dynamics

Clinical significance?

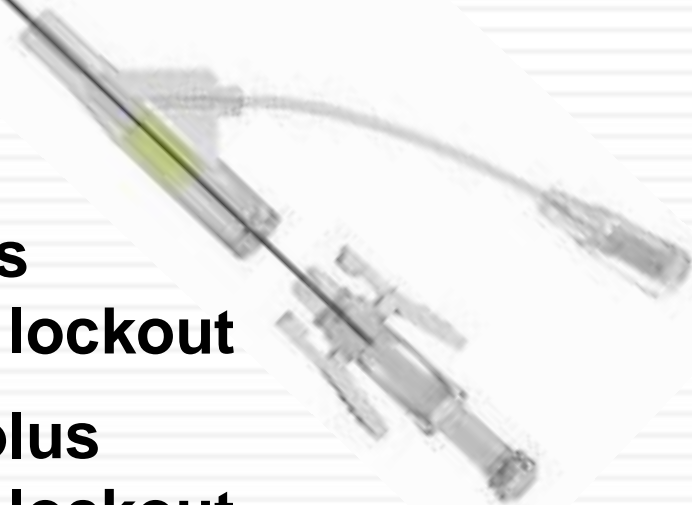
Absorption of subcutaneous **Fentanyl** was relatively rapid and similar to the rate of absorption previously reported for subcutaneous morphine

Capper et al 2010



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King's standard S/C PCA regimens



Morphine 2 mg/ml

2 mg bolus

10 minute lockout

Fentanyl 20 mcg/ml

20 mcg bolus

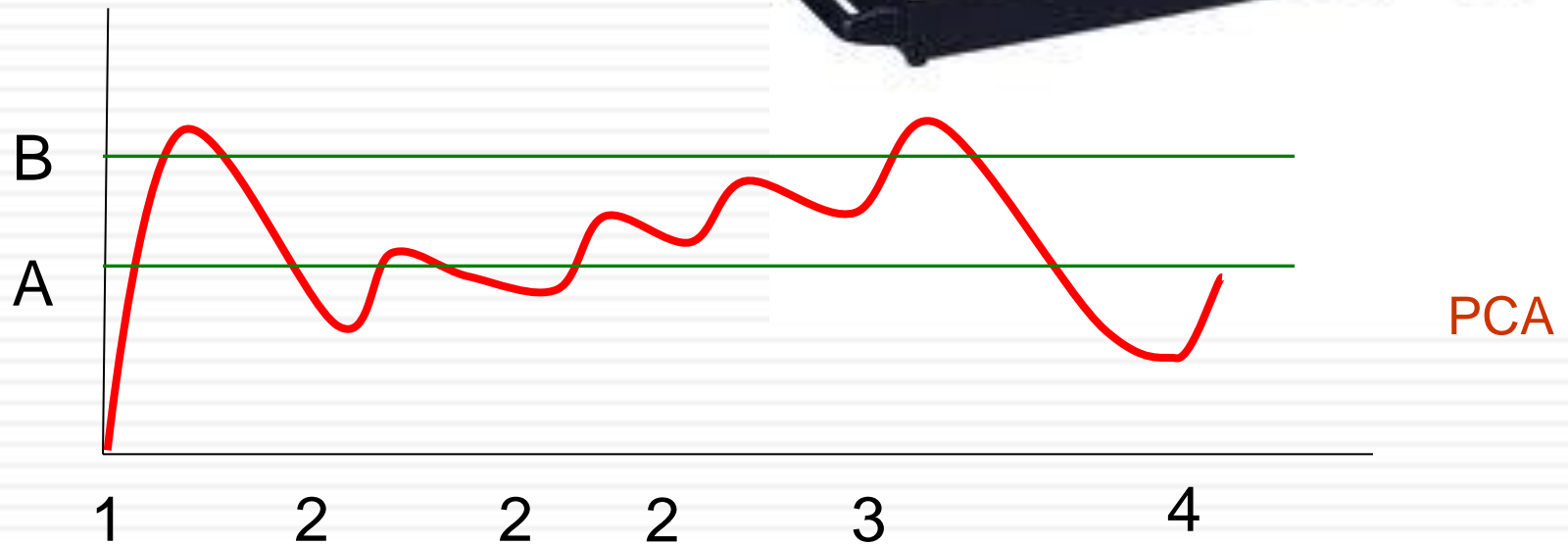
10 minute lockout

Dose delivery time

Usually *STAT* but can be varied

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Patient Controlled Analgesia (PCA)



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KCH Audit Data

Pain Scores @ 24 hours

n = 136

Score	0	1	2	3	4	5	6	7	8	9	10
n(136)	45	9	15	21	18	8	9	4	6	1	0
	66%				26%			8%			

Case – mix:

Regional trauma centre
Liver transplant / hepato-biliary
Neuro / Spinal
Orthopaedic
Urology
Gynae
GI surgery
Vascular surgery
Haematology (Sickle Cell)

Nausea & Vomiting

n = 136

Nausea/Vomiting 1st POD = **12 (9%)**

n = 40

Nausea/Vomiting 1st POD = **2 (5%)**

Subcut / IV PCA *The Debate*

Advantages of Subcutaneous PCA

No risk of phlebitis

Reduced risk of infection

6.2% HA bacteraemia from peripheral IV lines (NINNS 2002)

Less nausea & vomiting

No regular anti-emetic

Reduced medication burden

Effective analgesia

No delay in re-siting cannula

Analgesia more consistent than IV

Happy patient, nurse, FY1s, anaesth on-call



Primum non nocere
First, do no harm



Subcut PCA: No-Brainer