

# The Intravenous to Oral Milligram Potency Ratio of Morphine During Chronic Dosing in Cancer Pain

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## Background

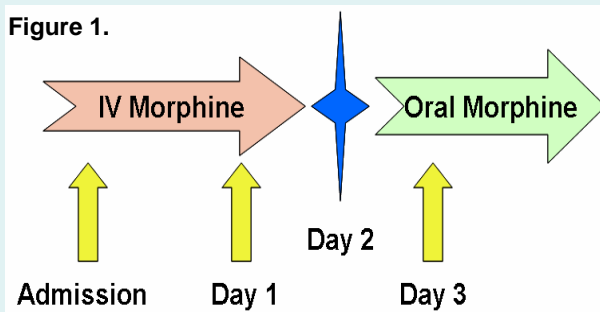
- No consensus on the intravenous (IV) to oral (PO) potency ratio (R) of morphine (M)
- Recommendations range from 1:2 – 1:6
- IV M is drug of choice for severe cancer pain
- Once pain is controlled M switched to PO
- R = 1:3 common

## Objectives

- Evaluate
  - R
  - Efficacy
  - Safety

## Methods

- Prospective observational cohort (Figure 1)



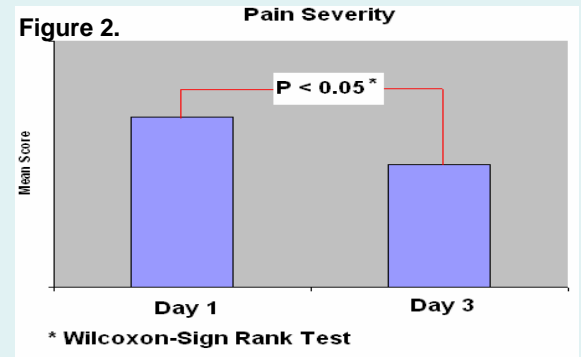
Day 1= Day before route conversion  
Day 2= Day of route conversion  
Day 3= Day after route conversion

- Daily Evaluation:
  - Pain severity (None, Mild, Moderate, Severe)
  - Side effects (S/E: None, Mild, Moderate, Severe)
  - M doses
- Pain Control
  - Pain = None/Mild
  - Rescue Doses ≤ 4

$$R = \frac{\text{ATC IV M (Day 1)}}{\text{ATC PO M (Day 3)}}$$

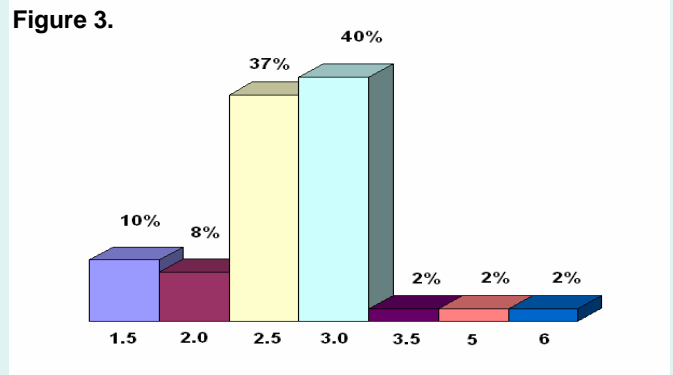
## Results

- 220 Screened, 168 eligible, 62 switched
- Pain control maintained or improved 94%
- Pain Severity decreased (Figure 2)



- S/E: after route switching
  - Dry mouth improved
  - Otherwise no significant change

- Ratios (Figure 3)



- R = 1:2.5 v. R = 1:3 (Table 1)

Table 1.	R = 2.5	R = 3.0
	Median (R)	Median (R)
Pain Severity Day 1	0 (0-2)	1 (0-2)
Pain Severity Day 3	0 (0-2)	1 (0-2)
ATC M Dose Day 1 (IV mg)	24 (12-48)	72 (20-240)

## Conclusions

- A milligram IV:PO potency ratio of 1:3
  - Safe
  - Effective
  - Over wide morphine dose range