



# Don't clown around

*When it's time to step down*

## 1. Benefits of earlier IV to ORAL switch

- ✓ Reduce risk of patient complications such as thrombophlebitis, line-associated sepsis and catheter infections
- ✓ Increase patient mobility and comfort
- ✓ Allow earlier patient discharge from hospital (by up to 3 days)
- ✓ Reduce unnecessary IV re-siting for doctors
- ✓ Reduce time-consuming preparation, administration and monitoring of injections or infusions for nurses



Staphylococcal endocarditis in a 29 years old patient who **died as a result of an infected IV line**



**Thrombophlebitis** resulting from IV catheter insertion and prolonged IV drug administration

## 2. Early IV to oral switch is safe

Large number of clinical trials and medical reviews has supported the use of “early switch therapy” (IV for 2 – 3 days, followed by oral treatment to complete therapy)

### **Early conversion from IV to oral antibiotics:**

- ✓ Has equal treatment efficacy compared to IV therapy for the entire treatment course
- ✓ Does NOT adversely affect patient outcome
- ✓ Has better patient care implications and significant cost savings.



### 3. Guidelines for switching

**Consider early conversion from IV to oral if:**

- ✓ Symptoms improving & patient is clinically stable
- ✓ Temperature  $\leq 38^{\circ}\text{C}$  on 2 consecutive measurements over 24 hours
- ✓ WCC normalising ( $< 11 \times 10^9/\text{L}$ )
- ✓ Patient has functioning GI tract and is able to swallow medications or has a working NG tube
- ✓ Antibiotic has good oral bioavailability

**Don't switch if patient:**

- has an infection where you need very high plasma antibiotic concentrations (e.g. meningitis, +ve blood cultures, endocarditis, bone/joint infections or deep-seated abscess/empyema)
- is immunocompromised (e.g. neutropenia or HIV)
- has a GI dysfunction or is "Nil orally"

If IV administration is used, re-assess the need for IV daily, and step down to oral/NG therapy as soon as possible.

### 4. Which antibiotics should I switch?

**a) Antibiotics with excellent oral bioavailability**

Drug	Oral bioavailability	IV dose	Oral dose
Metronidazole	100 %	500 mg bd	400 mg bd
Ciprofloxacin	~ 70 %	200 - 400 mg bd	500 mg bd
Fluconazole	> 90 %	200 – 400 mg d	200 – 400 mg d
Clindamycin	90 %	300 - 600 mg tds	300 - 600 mg tds



**b) Other antibiotics suitable for early IV to oral switch**

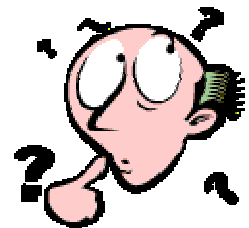
IV	ORAL
Amoxicillin 1-2g qid	Amoxicillin 500mg-1g tds
Azithromycin 500mg daily	Roxithromycin 300mg daily OR Azithromycin 500mg daily
Ceftriaxone 1g daily	Amoxicillin/Clavulanic acid 875mg/125mg (Augmentin Duo Forte®) 1 bd OR Cefuroxime 500mg bd (in CAP)
	<b>No oral formulation!</b> Choice of oral antibiotic depends on infection site & microbiological results.
Cephazolin 1g tds	Cephalexin 500mg qid
Ticarcillin/Clavulanic acid 3g/0.1g (Timentin®) qid	Amoxicillin/Clavulanic acid 875mg/125mg (Augmentin Duo Forte®) 1 bd OR If pseudomonas/resistant Gram -ve infections: Discuss with ID
	<b>No oral formulation!</b> Choice of oral antibiotic depends on infection site & microbiological results.



## 6. Some quick case studies

### Case 1:

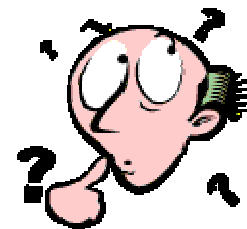
- A 78 year old male patient is admitted with *C. albicans* sepsis
- Microbiology report shows sensitivity to fluconazole and amphotericin.
- Patient's Wt = 50 kg, serum Cr = 211, CRP = 155.3, WCC = 18, has NG tube with working GI tract
- He is currently charted for Fluconazole 400 mg IV daily
- WHAT ACTIONS WOULD YOU TAKE?



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### Case 2:

- A 46 year old female patient was admitted with post (sm) bowel resection & incisional hernia repair.
- Wt = 85 kg (IBW = 52 kg), serum Cr = 86, CRP = 15, WCC = 14, working GI tract
- She is charted for Amoxicillin 1 g IV qid, Gentamicin 240 mg IV daily and Metronidazole 500 mg IV tds.



- WHAT ACTIONS WOULD YOU TAKE?

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### Case 3:

- A 66 year old male patient (admitted for severe CAP), has been transferred to your ward. He was in ICU for 3 days.
- Current patient information: Wt = 75 kg; serum Cr = 86; CRP = 12; WCC = 11; No known allergies, working GI tract
- He is charted for Ceftriaxone 1g daily and Azithromycin 500 mg IV daily (since ICU admission 3 days ago)
- WHAT ACTIONS WOULD YOU TAKE?

