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

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 ≤ 38°C on 2 consecutive measurements over 24 hours
- WCC normalising (< 11 x 10⁹/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

<table>
<thead>
<tr>
<th>Drug</th>
<th>Oral bioavailability</th>
<th>IV dose</th>
<th>Oral dose</th>
</tr>
</thead>
<tbody>
<tr>
<td>Metronidazole</td>
<td>100 %</td>
<td>500 mg bd</td>
<td>400 mg bd</td>
</tr>
<tr>
<td>Ciprofloxacin</td>
<td>~ 70 %</td>
<td>200 - 400 mg bd</td>
<td>500 mg bd</td>
</tr>
<tr>
<td>Fluconazone</td>
<td>&gt; 90 %</td>
<td>200 – 400 mg d</td>
<td>200 – 400 mg d</td>
</tr>
<tr>
<td>Clindamycin</td>
<td>90 %</td>
<td>300 - 600 mg tds</td>
<td>300 - 600 mg tds</td>
</tr>
</tbody>
</table>
### b) Other antibiotics suitable for early IV to oral switch

<table>
<thead>
<tr>
<th>IV</th>
<th>ORAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Amoxycillin 1-2g qid</td>
<td>Amoxycillin 500mg-1g tds</td>
</tr>
<tr>
<td>Azithromycin 500mg daily</td>
<td>Roxithromycin 300mg daily OR Azithromycin 500mg daily</td>
</tr>
<tr>
<td>Ceftriaxone 1g daily</td>
<td>Amoxycillin/Clavulanic acid 875mg/125mg (Augmentin Duo Forte®) 1 bd OR Cefuroxime 500mg bd (in CAP)</td>
</tr>
<tr>
<td>Cephazolin 1g tds</td>
<td>Cephalexin 500mg qid</td>
</tr>
<tr>
<td>Ticarcillin/Clavulanic acid 3g/0.1g (Timentin®) qid</td>
<td>Amoxycillin/Clavulanic acid 875mg/125mg (Augmentin Duo Forte®) 1 bd OR If pseudomonas/resistant Gram –ve infections: Discuss with ID</td>
</tr>
</tbody>
</table>

**No oral formulation!** 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?

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 Amoxycillin 1 g IV qid, Gentamicin 240 mg IV daily and Metronidazole 500 mg IV tds.
- WHAT ACTIONS WOULD YOU TAKE?

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?