ANTIMICROBIALS: INTRAVENOUS TO ORAL SWITCH

WHY TO SWITCH ?

- Low risk of IV infusion-site infections (Thrombophlebitis)
- Lower cost of therapy
- Decrease in overall cost of treatment
- Patient friendly approach (Early mobility, early discharge)

WHEN IS SWITCH INAPPROPRIATE*?

1. Deep seated-infection (abscess-not amenable on drainage)	8. Septic arthritis
2. Infected implant or prosthesis	9. Malabsorption
3. Staphylococcus aureus bacteremia	10. Necrotizing soft tissue infection
4. Meningitis	11. Endocarditis
5. Osteomyelitis	12. Cystic fibrosis
6. Encephalitis	13. Central venous device infection
7. Vascular graft	14. Necrotizing enterocolitis

***Seek infectious disease/clinical pharmacologist/microbiologist advice for antibiotic or oral switch plan for above indications.**

Reference:SA Health.IV to Oral Switch Clinical Guideline for adult patients: Can antibiotics S.T.O.P. Government of South Australia, 23 October 2017, Public-I1-A2; CG202, (1.1);1-7. Accessed on 16 Nov 2021. https://www.sahealth.sa.gov.au/wps/wcm/connect/86d0af8047ca4a108ca28dfc651ee2b2/Clinical_Guideline_IV+to+Oral_Switch_v1.1_06.06.2019.pdf.
Prepared by: Dr Khushboo Bisht, SR, Clinical Pharmacology; Dr Kanimozhi, JR, Pharmacology
Reviewed by: Prof. SS Handu (HOD Pharmacology) and Dr PK Panda (Asso Prof, Medicine)

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WHEN TO SWITCH?

- ✓ Antimicrobial treatment indicated
- ✓ Patient has improved clinically
- ✓ Oral intake (food and fluids) well -tolerated
- ✓ Appropriate o ral antibiotic is available
- ✓ No indication for prolonged IV therapy or high tissue antibiotic concentration

Intravenous*	Oral suggestion*#
Benzylpenicillin 1.2g-1.8g 6-hourly **Amoxycillin 1-2g 8-hourly** **Ampicillin-sulbactam 1.5-3 g 6-hourly**	**Amoxycillin** 1g 8-hourly **Or** **Amoxycillin-clavulanate** 875/125mg 12-hourly
Benzyl penicillin 600mg-1.2g 6-hourly	**Amoxicillin** 500mg/1g/dose 8 hourly
Amoxycillin 500mg-1g 8-hourly	**Amoxicillin** 500mg 8 hourly
Amoxycillin-**clav**ulanate **1.2g**	**Amoxycillin-clavulanate** 875/125mg 12-Hourly
Oxacillin 1.5-2g 4-6-hourly	**Dicloxacillin** 500mg 6-hourly

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Flucloxacillin **1g-2g 6-hourly**	**Di/Flucloxacillin** 500mg-1g 6 hourly
Cefuroxime 750mg-1.5g 8-hourly	**Cefuroxime** 500mg 12-hourly
Ceftriaxone 1g – 2g daily	**Amoxycillin-clavulanate** **875/125mg 12-hourly **Or** **Cefuroxime** 500mg 12-hourly (if respiratory infection) **Or** **Cefixime** 200mg 12-hourly or 400mg 24-hourly **Or** **Erythromycin** (Base) 250 to 500mg 6 /12 hourly
Cefazolin 1g-2g 8 hourly	**Cefalexin** 500mg-1g 6 hourly
Ciprofloxacin 200-400mg 12-hourly	**Ciprofloxacin** 500mg-750mg 12-hourly
Piperacillin-tazobactam 4.5g 6 hourly OR 8 hourly	**Amoxycillin-clavulanate** 875/125mg 12-hourly [1] (Add **ciprofloxacin** 500-750mg 12-hourly or **levofloxacin** 500-750 mg daily if specific *Pseudomonas* cover needed)

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Amoxycillin **Plus** Gentamicin **with or without** Metronidazole	**Amoxycillin**
Imipenem 500mg-1g 6 to 8-hourly **(Based on Imipenem)** **Meropenem 1-2g 8-hourly**	**Amoxycillin-clavulanate** 875/125mg 12-hourly **Or** **Cefixime** 200mg 12-hourly or 400mg 24-hourly. (Add **Ciprofloxacin** 500-750mg 12-hourly or **Levofloxacin** 500-750 mg daily if specific *Pseudomonas* cover needed)
Vancomycin 25mg/kg 12-hourly **Linezolid 600 mg 12-hourly** **Clindamycin 450mg 8-hourly**	**Clindamycin** 150-450mg 8-hourly or **Linezolid** 600 mg 12-hourly or **Cotrimoxazole** 80 mg TMP/400 mg SMX if MRSA is susceptible
Metronidazole 500mg 12-hourly	**Metronidazole** 400mg 8 to 12-hourly
Azithromycin 500mg daily	**Azithromycin** 500mg daily or **Doxycycline** 100mg daily
Amphotericin **B** (AMB) **0.1-1.5 mg/kg per day** **Liposomal AMB 3-6 mg/kg/day** **Fluconazole 400-800 mg once daily**	**Fluconazole** 400-800 mg once daily

*Note: Before administration: Check for antibiotic allergies and normal renal and hepatic function

**Note: Check for patient allergy status when converting to penicillin

#Note: Evaluate the antibiotic susceptibility pattern before switching

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	Indication (Empiric IV therapy)	Empirical Oral switch(1st line)	Empiric Oral switch (2nd line)	Total Duration IV + Oral
1.	Community Acquired Pneumonia (High severity-No Previous antibiotics)	Doxycycline100mg 12 hourly	Amoxicillin1gram 8-hourly PLUS Clarithromycin 500mg 12hourly	7-10 days
2.	Community Acquired Pneumonia (With Previousantibiotics)	Doxycycline100mg 12 hourly	Co- trimoxazole 960mg 12hourly	7-10 days
3.	Severe Hospital AcquiredPneumonia	Co- Amoxiclav 625mg 8hourly	Levofloxacin 500mg 12hourly	7 days
4.	Aspiration Pneumonia	Amoxicillin 1gram 8-hourly PLUS Metronidazole400mg 8-hourly	Clarithromycin500mg 12hourly PLUS Metronidazole 400mg 8hourly	7 days
5.	Severe Infective Exacerbation of COPD	Co- Trimoxazole 960mg 12hourly OR Doxycycline 100mg 12-hourly	Clarithromycin500mg 12hourly	7 days
6.	Pyelonephritis/Urosepsis	Co- trimoxazole 960mg 12hourly		7 days
7.	Intra- abdominal sepsis	Metronidazole400mg 8 hourly PLUS Doxycycline 100-200 mgdaily	Metronidazole400mg 8 hourly PLUS Co- trimoxazole 960mg 12hourly	3-5 days
8.	Biliary Sepsis	Doxycycline100-200mg daily +/- Metronidazole 400mg 8 hourly	Co- trimoxazole 960mg 12 hourly +/- Metronidazole 400 mg 8hourly	7 days
9.	Cellulitis (moderate to severe)	Flucloxacillin1gm 6 hourly	Doxycycline100mg 12 hourly	7 to 14 days

Reference: Adult Antibiotic Intravenous to Oral Switch Therapy (IVOST) Guidance, 2021. Accessed 16 Nov 2021. https://www.nhsgrampian.org/globalassets/foidocument/foi-public-documents1---all-documents/Guide_IVOST.pdf.
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