

Sequential antimicrobial therapy

**Alternatives to
“never change a winning team”**

Peterhans van den Broek

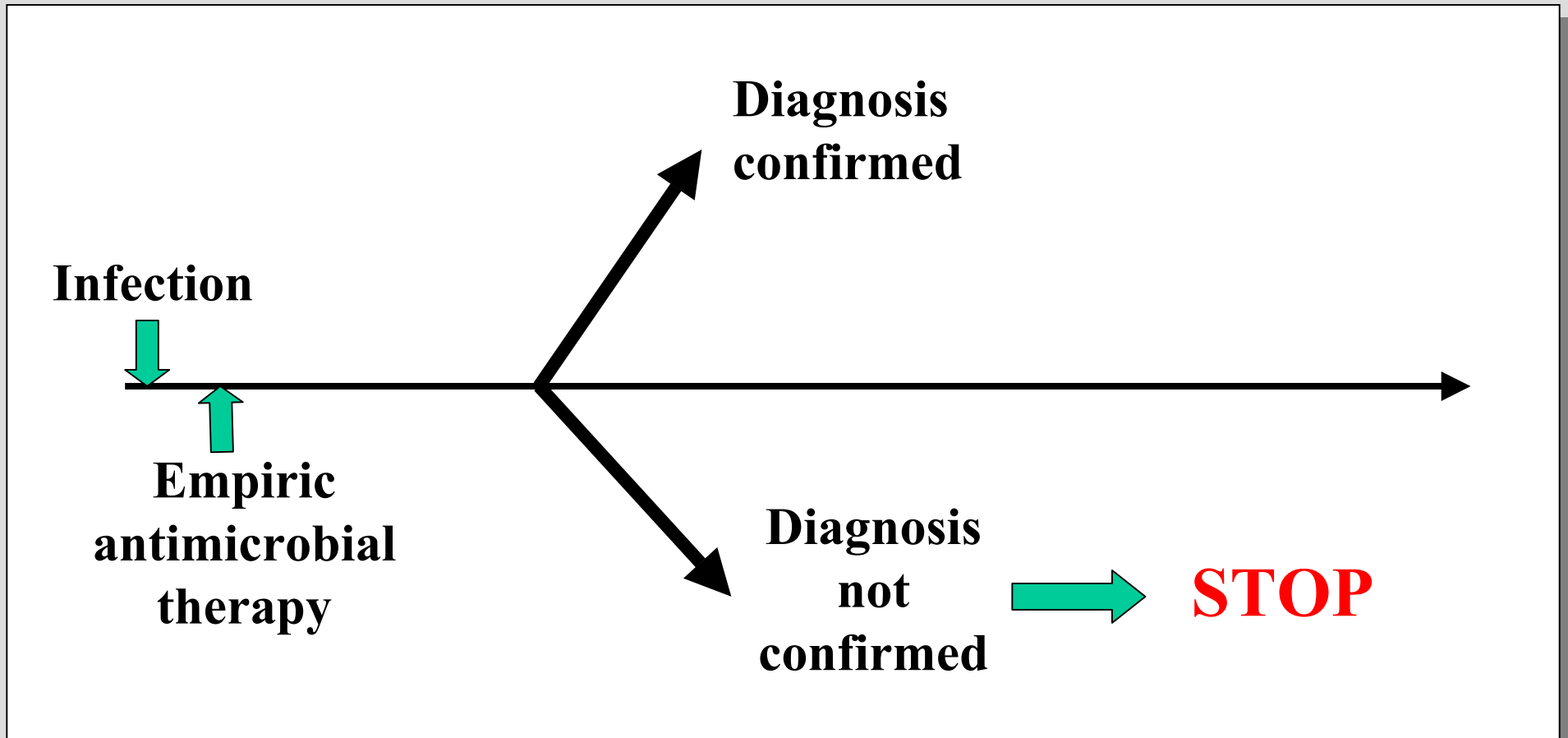
Never change a winning team



Alternatives

- **Always stop a needless team**
- **Sometimes change a losing team**
- **Often change a winning team**

Antimicrobial therapy



Always stop a needless team

The use of ceftazidime and teicoplanin (N=134)

Correct 33

Unjustified 11

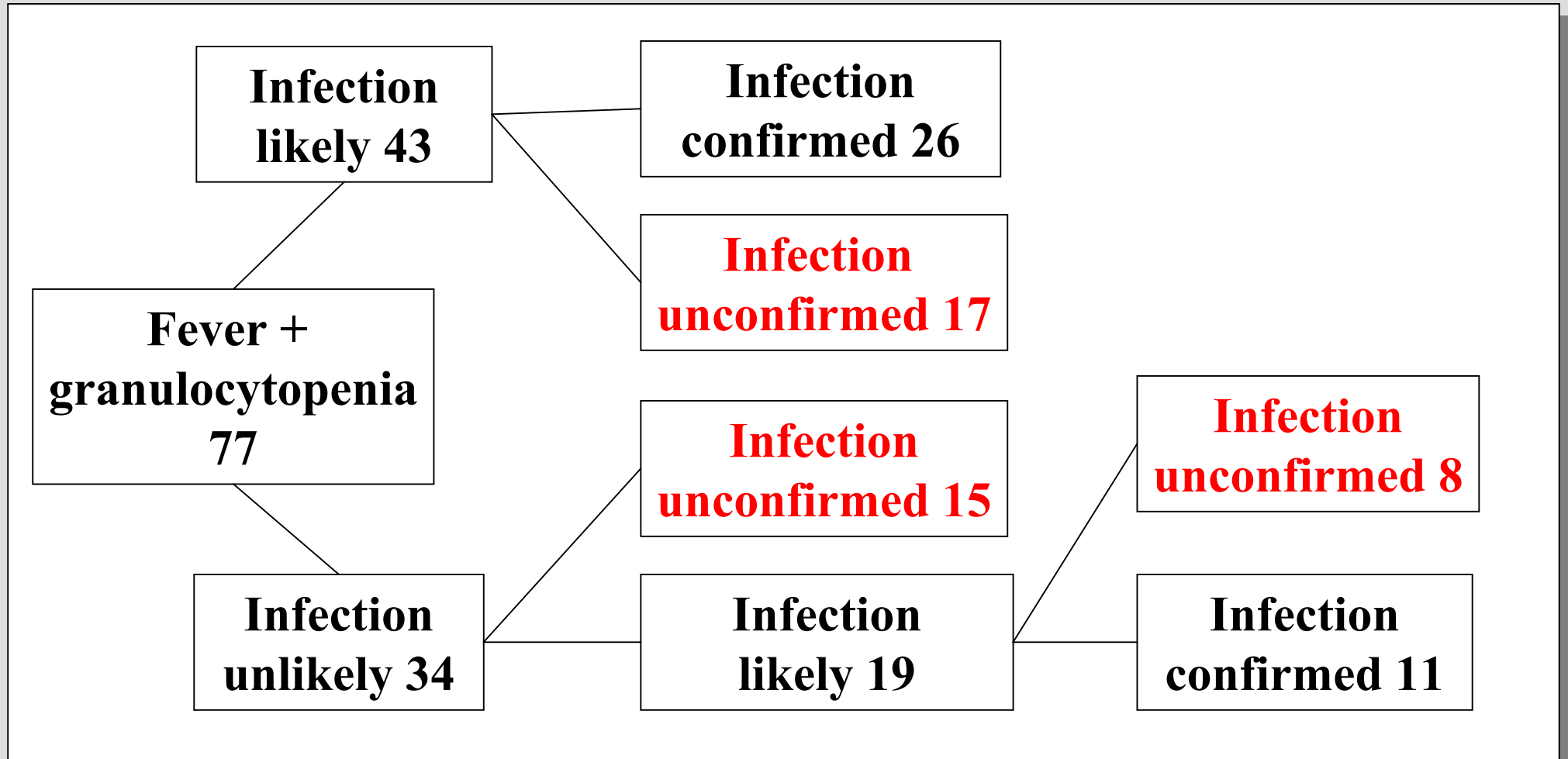
Incorrect choice 49

Incorrect dose 45

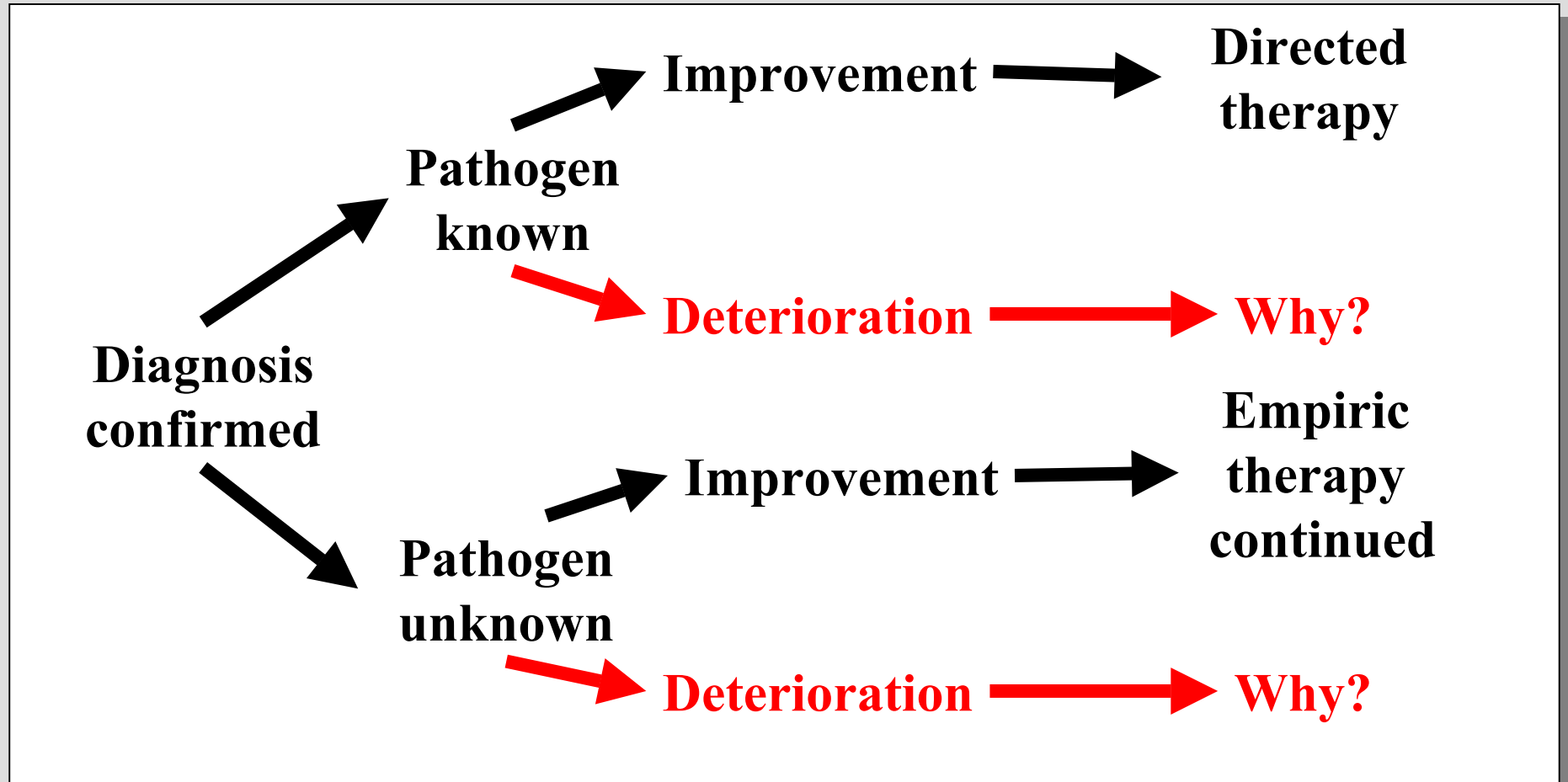
Incorrect interval 8

Incorrect duration 17

Always stop a needless team



Antimicrobial therapy

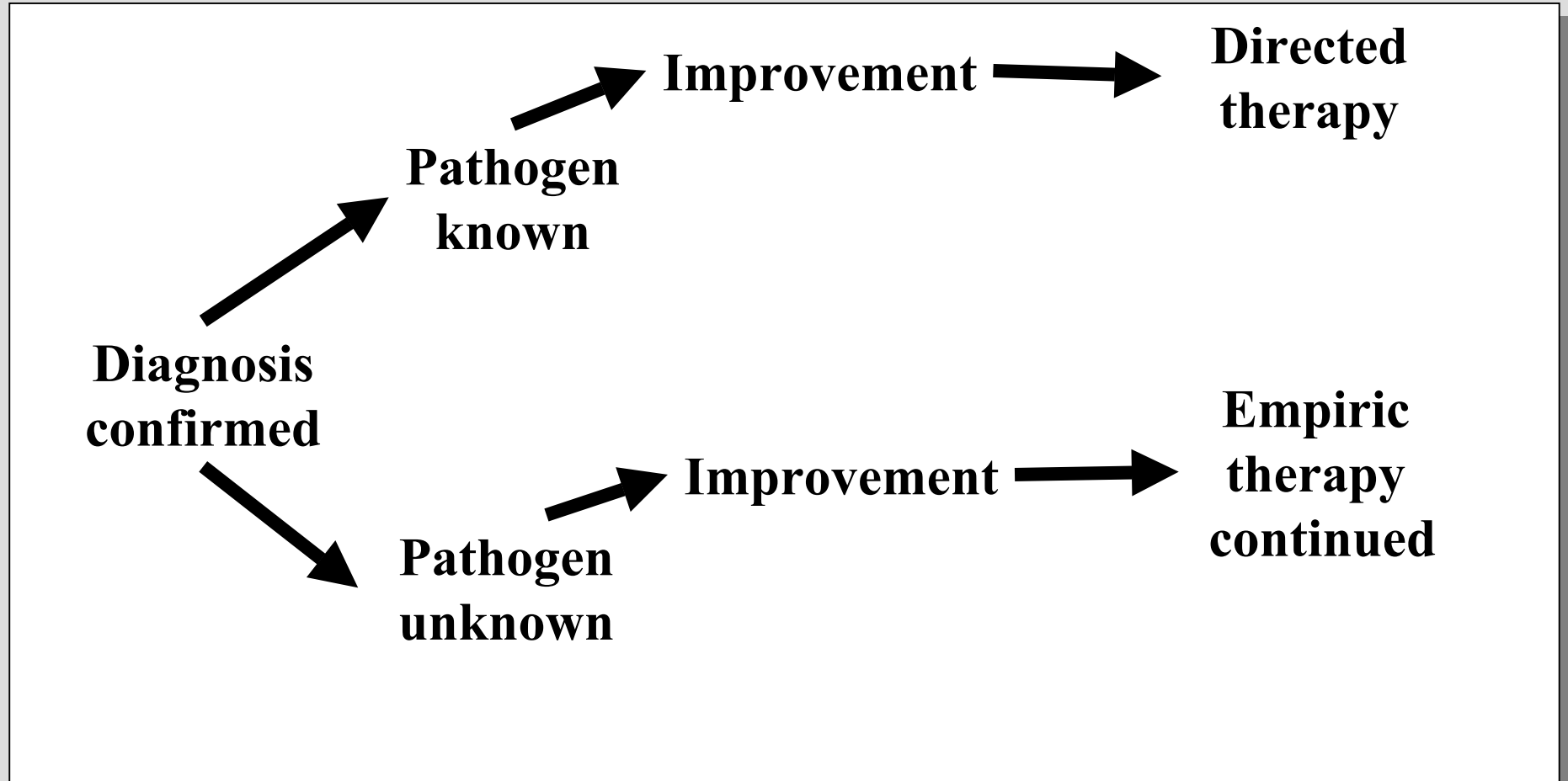


Sometimes change a losing team

Failure of antimicrobial therapy

- **Wrong diagnosis**
- **Resistant micro-organisms**
- **Pharmacokinetic problems**
- **Non-draining abscess or empyema**
- **Impaired host resistance**

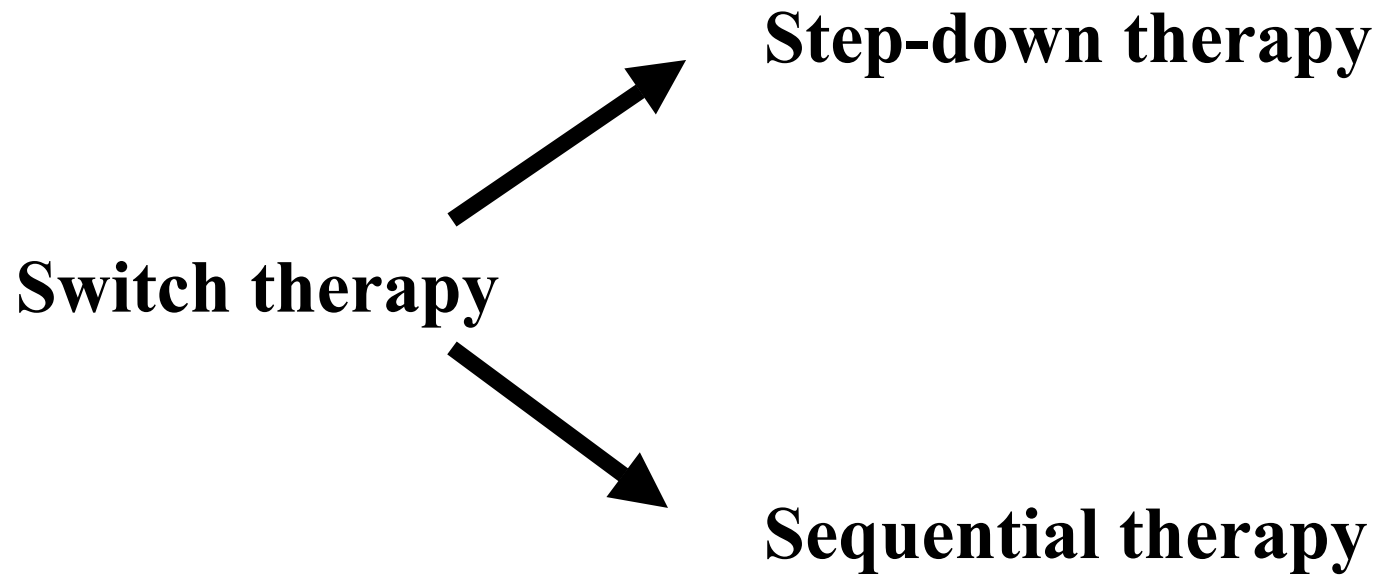
Antimicrobial therapy



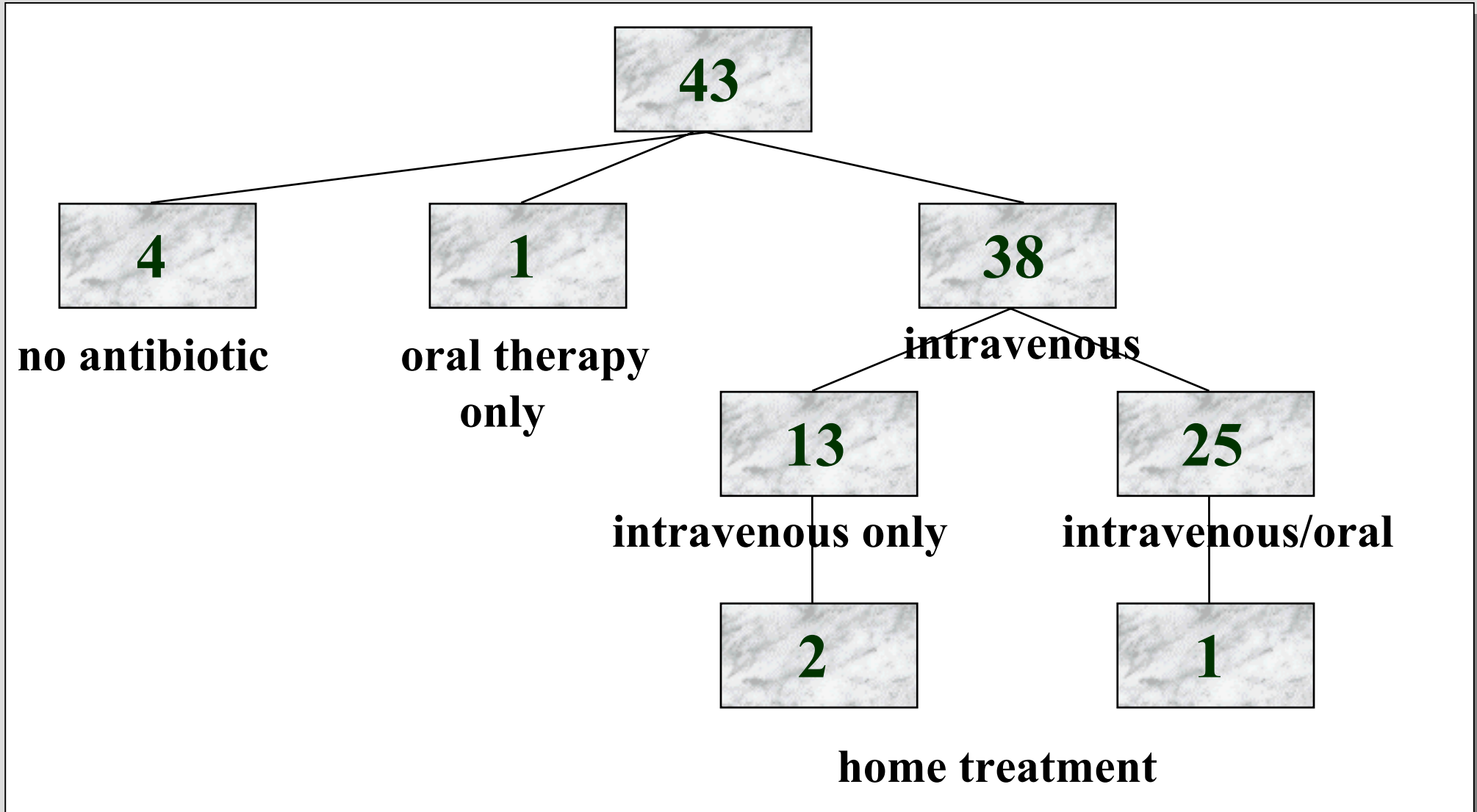
Often change a winning team

- **Narrow spectrum therapy**
- **Switch therapy**

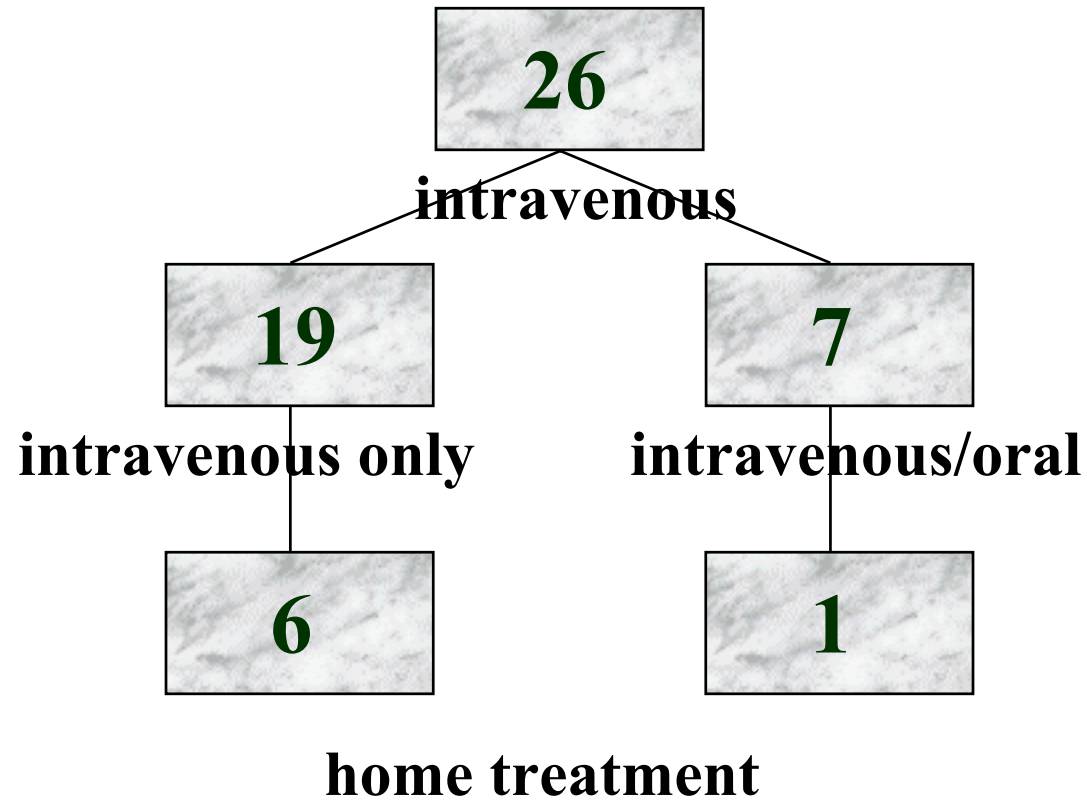
Nomenclature



Osteomyelitis



Arthritis



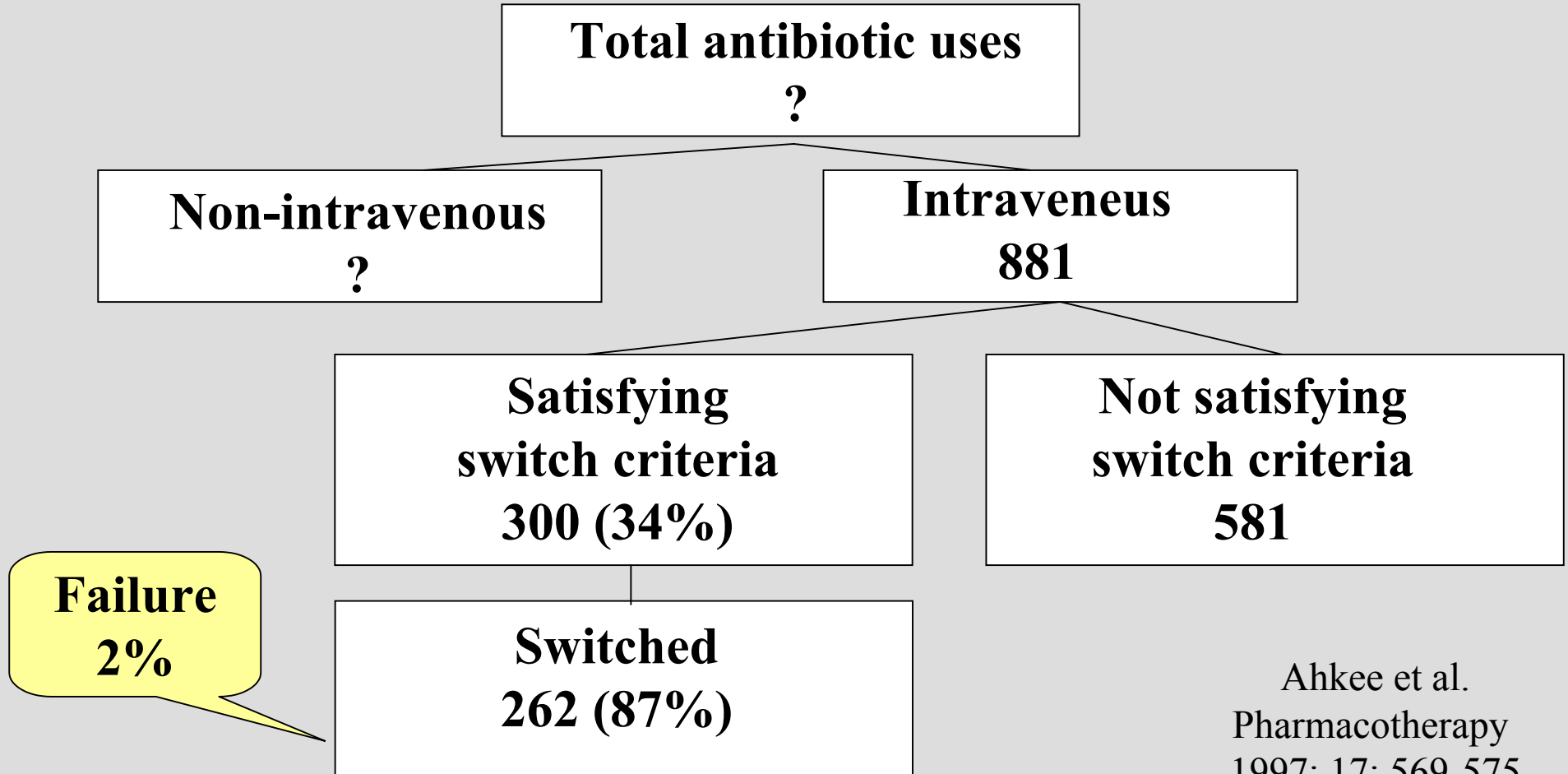
Potential profits

- **Lower risk of catheter-associated infection**
- **Faster mobilisation of the patient**
- **Shorter stay in hospital**
- **Economic benefits**

Economic benefits

- **Lower acquisition costs**
- **Elimination of ancillary costs**
- **Reduced preparation time**
- **Reduced administration time**
- **Reduced wastage**
- **Reduced risk of complications**
- **Shortened hospitalisation**

Louisville



Ahkee et al.
Pharmacotherapy
1997; 17: 569-575

ANTIMICROBIAL IV TO PO FORM

Patient _____ Date _____

IV antimicrobial _____

criteria for switch therapy

1. Clinical diagnosis compatible with oral therapy _____yes
2. Patient has functioning GI tract _____yes
3. Patient is afebrile _____yes
4. Signs and symptoms related to infection are
improving or resolved _____yes
5. The white blood cell count is normalizing _____yes

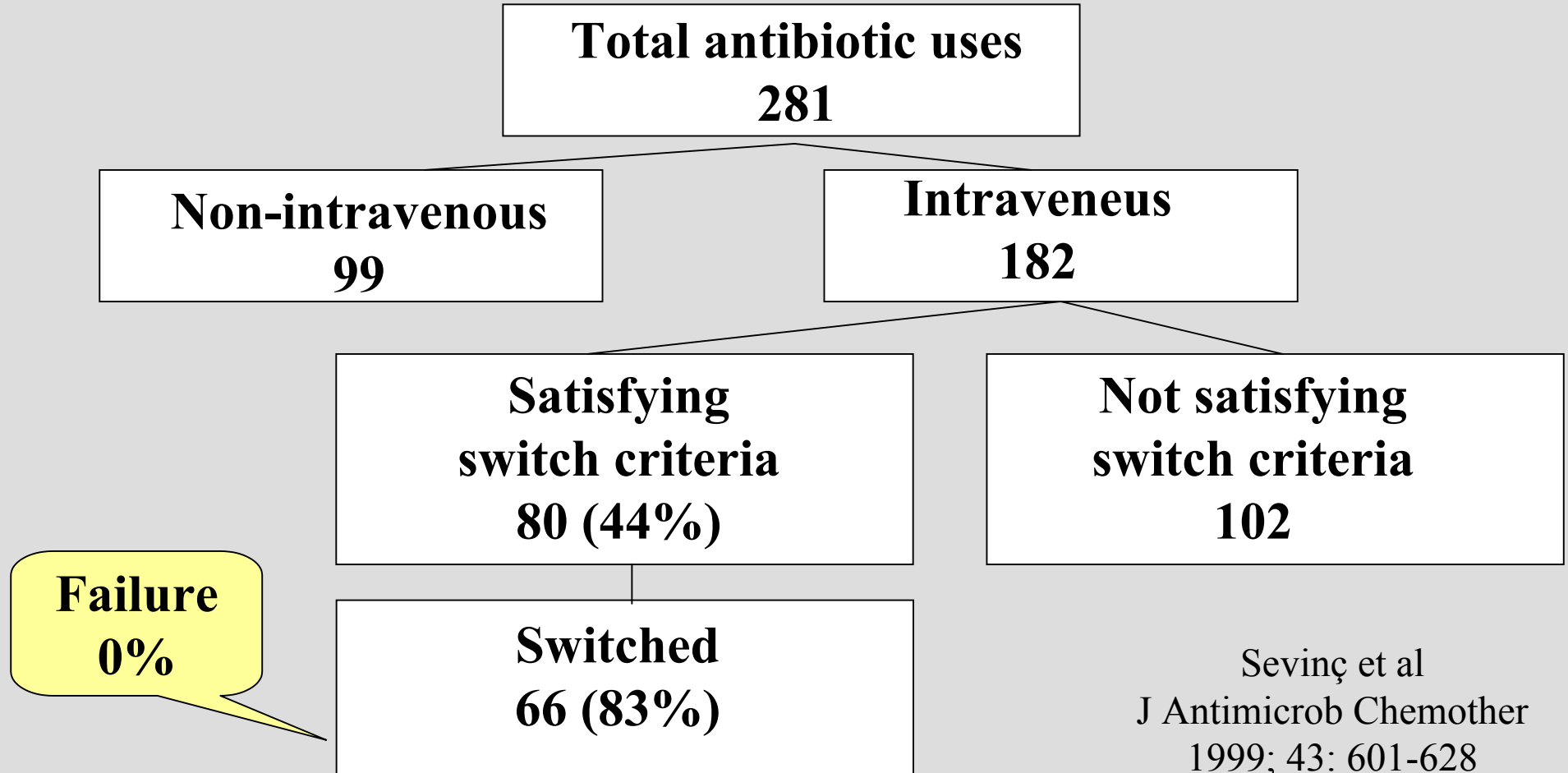
Doctor: Your patient meets the above five criteria for switch therapy. For completion of therapy, the following oral antimicrobial regimen is suggested.

Thank you,
Antimicrobial team

If you have any questions
please call ext. 5906

NOT A PERMANENT PART OF MEDICAL RECORD

Amsterdam



Sevinç et al
J Antimicrob Chemother
1999; 43: 601-628

IV to oral switch: when?

- **Patient factors**
 - **severity of illness, age, comorbidity, mental status, complications**
- **Pathogen characteristics**
 - **virulence, resistance**
- **Antibiotic properties**
 - **spectrum, bioavailability, dosing schedule, patient tolerance**

Criteria for IV to oral switch

- **Clinical stability**
- **Improvement of signs of infection**
- **Temperature returning toward normal**
- **WBC returning toward normal**
- **Oral therapy must give adequate concentrations at site of infection**
- **No abnormal GI absorption**
- **Good compliance**

Criteria for IV to oral switch in pneumonia

- **No clinical indication for continuing IV**
- **No abnormal GI absorption**
- **Patient afebrile for at least 8 h**
- **Cough and respiratory distress improving**
- **WBC returning toward normal**
- **C-reactive protein returning toward normal**

Bioavailability $\geq 75\%$

- **Metronidazole**
- **Clindamycin**
- **Cotrimoxazole**
- **Ofloxacin**
- **Amoxicillin**

Bioavailability 50 - 75%

- **Co-amoxiclav**
- **Clarithromycin**
- **Ciprofloxacin**
- **Flucloxacillin**
- **Feneticilline**

Bioavailability < 50%

- **Ampicillin**
- **Erythromycin**
- **Azithromycin**
- **Cefuroxime-axetil**
- **Cefixime**
- **Cefpodoxime**

Caveat

- **Drug interactions**
Calcium, magnesium, iron

Never change a winning team

