

## Pharmacy in the US ...

The worse ?



Or the best ?



Prof. Schentag is here to tell us that it is probably the best ...



When did start the story of pharmacist involvement in antibiotic management ?



**International Society of Anti-Infective Pharmacology**

Founded in 1991

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#### History

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J.J. Schentag,  
PharmD  
pharmacokinetics

O. Cars,  
MD  
resistance

R. Noorby,  
MD  
epidemiology

W. Craig,  
MD  
pharmacology

G. Drusano,  
MD  
infectious  
diseases



P. Tulkens,  
MD  
pharmacology

Prof. Schentag is a pioneer pharmacist  
in antibiotic use optimization !

## From PK to prevention of toxicity...

Schentag et al.

Gentamicin tissue accumulation and nephrotoxic reactions.  
JAMA. 1978 240:2067-9.

Mangione & Schentag.

Therapeutic monitoring of aminoglycoside antibiotics: an approach.  
Ther Drug Monit. 1980;2(2):159-67.

Kazierad et al.

The effect of verapamil on the nephrotoxic potential of gentamicin as  
measured by urinary enzyme excretion in healthy volunteers.  
J Clin Pharmacol. 1995 35:196-201

## From PK to optimisation of efficacy...

Nix & Schentag.

Role of pharmacokinetics and pharmacodynamics in the design of dosage schedules for 12-h cefotaxime alone and in combination with other antibiotics.

Diagn Microbiol Infect Dis. 1995 22:71-6.

Thomas et al.

Pharmacodynamic evaluation of factors associated with the development of bacterial resistance in acutely ill patients during therapy.

Antimicrob Agents Chemother. 1998 42:521-7.

Moise-Broder et al.

Pharmacodynamics of vancomycin and other antimicrobials in patients with *Staphylococcus aureus* lower respiratory tract infections.

Clin Pharmacokinet. 2004 43:925-42.

## JJ. Schentag is the father of the AUC/MIC concept !...

Forrest et al.

Pharmacodynamics of intravenous ciprofloxacin in seriously ill patients.

Antimicrob Agents Chemother. 1993 37:1073-81.

Schentag.

Antimicrobial action and pharmacokinetics/pharmacodynamics: the use of AUC to improve efficacy and avoid resistance.

J Chemother. 1999 11(6):426-3

Moise et al.

Area under the inhibitory curve and a pneumonia scoring system for predicting outcomes of vancomycin therapy for respiratory infections by *Staphylococcus aureus*.

Am J Health Syst Pharm. 2000 57 Suppl 2:S4-9

## Pharmacists and pharmacoeconomics

Paladino & Schentag.

The economics of *Clostridium difficile*-associated disease for providers and payers.

Clin Infect Dis. 2008 46:505-6

Noskin et al.

Budget impact analysis of rapid screening for *Staphylococcus aureus* colonization among patients undergoing elective surgery in US hospitals .  
Infect Control Hosp Epidemiol. 2008 29:16-24.

Paladino et al.

Direct costs in patients hospitalised with community-acquired pneumonia after non-response to outpatient treatment with macrolide antibacterials in the US.

Pharmacoeconomics. 2007 25:677-83

## Pharmacists and antibiotic policies

Schentag.

Antimicrobial management strategies for Gram-positive bacterial resistance in the intensive care unit.

Crit Care Med. 2001 29(4 Suppl):N100-7.

Schentag et al.

What have we learned from pharmacokinetic and pharmacodynamic theories?

Clin Infect Dis. 2001 32 Suppl 1:S39-46.

Schentag.

Understanding and managing microbial resistance in institutional settings.

Am J Health Syst Pharm. 1995 52(6 Suppl 2):S9-14

## Clinical pharmacy development

Schentag et al.

Changes in antimicrobial agent usage resulting from interactions among clinical pharmacy, the infectious disease division, and the microbiology laboratory.

Diagn Microbiol Infect Dis. 1993 16:255-64.

Schentag.

The results of a targeted pharmacy intervention program.

Clin Ther. 1993 15 Suppl A:29-36.

Gresala et al.

A clinical pharmacy-oriented drug surveillance network: II. Results of a pilot project.

Drug Intell Clin Pharm. 1987 21:909-14.

Which type of pharmacist would like to become tomorrow ?

