INTRODUCTION TO BASIC PHARMACOKINETICS, AND INDIVIDUALIZATION OF DRUG THERAPY

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THE EYEBALL FIXES

THE ILLUSION
Amount, Rate Constant, Half-Time

1. \( \frac{dA_t}{dt} = -kA_t \)

2. \( A_t = A_0 e^{-kt} \)

3. \( \frac{A_t}{A_0} = e^{-kt} \)

4. \( .5 = e^{-kt_{\frac{1}{2}}} \)

5. \( \ln(.5) = -kt\frac{1}{2} \)

6. \( \frac{\ln(.5)}{t\frac{1}{2}} = -k \)

7. \( \frac{- .693}{t\frac{1}{2}} = -k \)

8. \( \frac{\ln(.5)}{-k} = t\frac{1}{2} = \frac{\ln(2)}{k} \)
HALF-TIMES AFTER CHANGE

0 1 2 3 4 5

MG OF DRUG IN BODY

-4 -2 0 2 4 6 8

DAYS AFTER CHANGING DOSES

AT END
One-Compartment Absorptive Model

Absorptive Model with One Peripheral Compartment