Medicines Management in patients with dysphagia: Considerations and clinical implications

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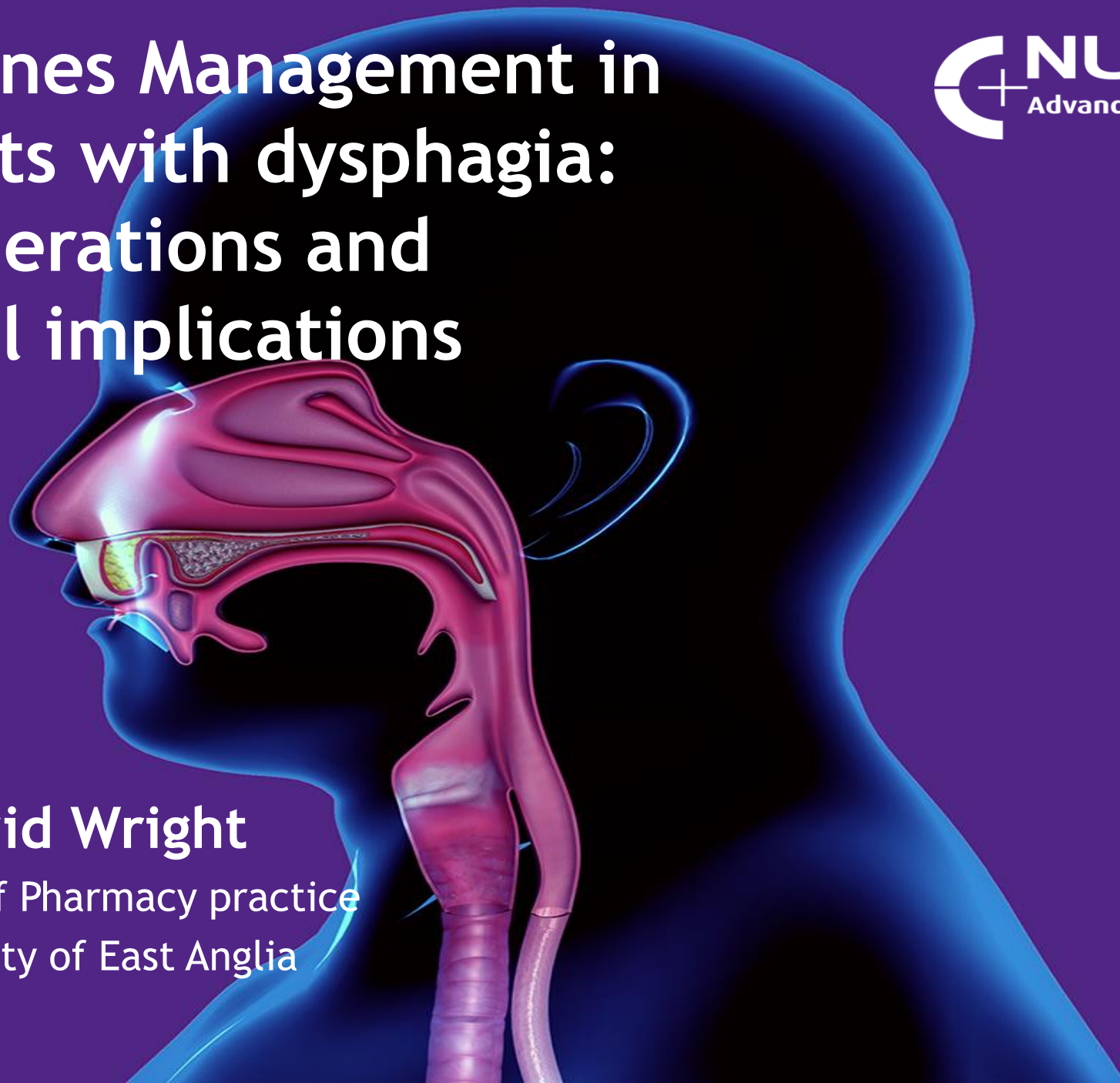

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Presentation

- Personal history
- Prevalence
- Observation of practice
  - Hospital wards
- Drug absorption
- Different types of tablet
- Summary

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Personal history

- Practising community pharmacist 1992 to 2016
- PhD: Clinical pharmacy services in care homes
- Interest in dysphagia started in 2000
- Massive Open On-Line Course
  - ‘Dysphagia: Swallowing Difficulties and Medicines’
- Book
  - Prescribing Medicines for Patients with Dysphagia
- Website
  - www.swallowingdifficulties.com

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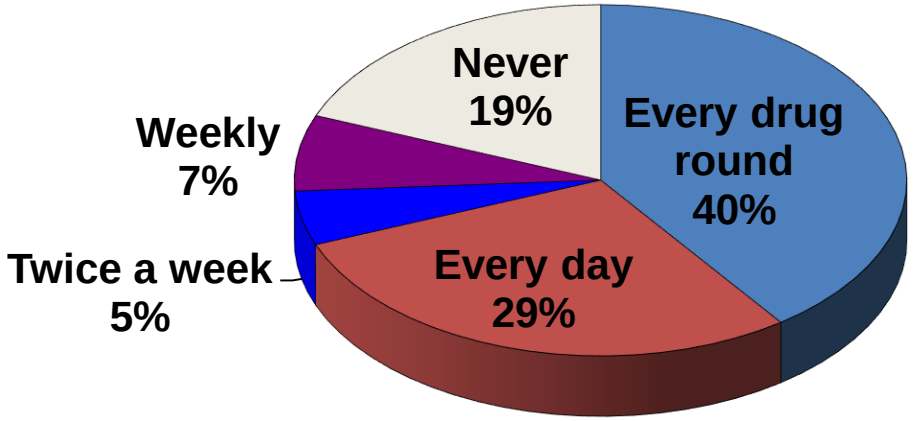
National UK survey 2002

- Regional care home nurse training days
- 540 nurses response to frequency of crushing medicines



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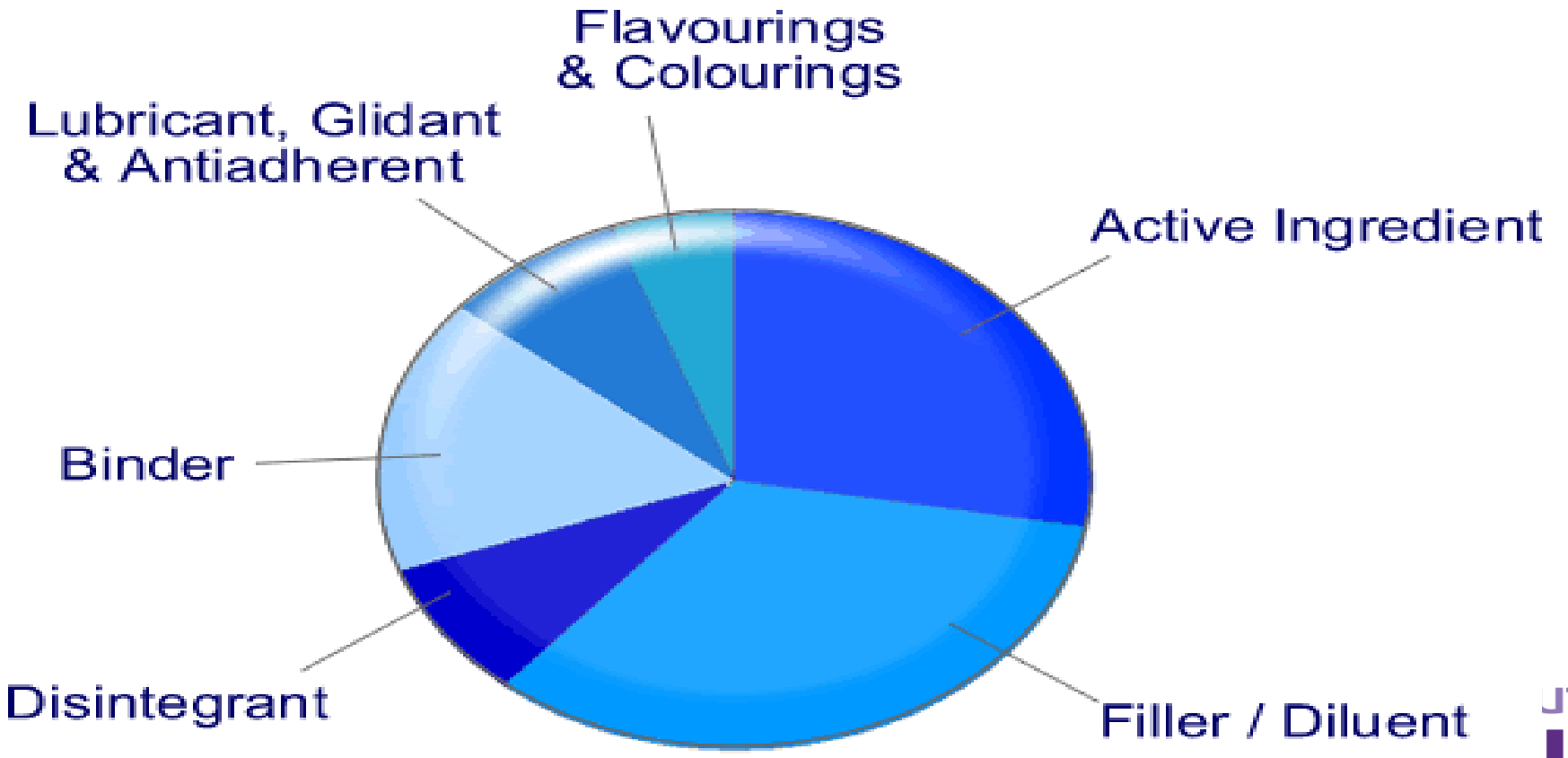
The beautiful tablet



What is the effect of dysphagia on likelihood of medication administration errors? QD1

A. 10% less chance
B. No effect
C. 10% increased chance
D. 100% increased chance
E. 300% increased chance

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Observation of ward rounds

- 4 hospitals, 8 wards
- 2129 drug administrations observed
  - 817 had an error
    - 313 involved patients with dysphagia

- Patients with at least one Medication Administration error
  - Without dysphagia 14%
  - With dysphagia 33% ($p<0.001$)
  - With enteral tubes 56% ($p<0.001$)

- Administrator was last line of defence

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Wrong formulation

- 8 patients chewing modified release medicines
  - Swallowing problem not previously identified
- Tablets crushed in 24 cases
  - No modified release preparations
  - Without the prescriber's authorisation
  - Seven cases licensed liquid formulation available
- Enteral tube not flushed in 36 cases

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Swiss cheese model

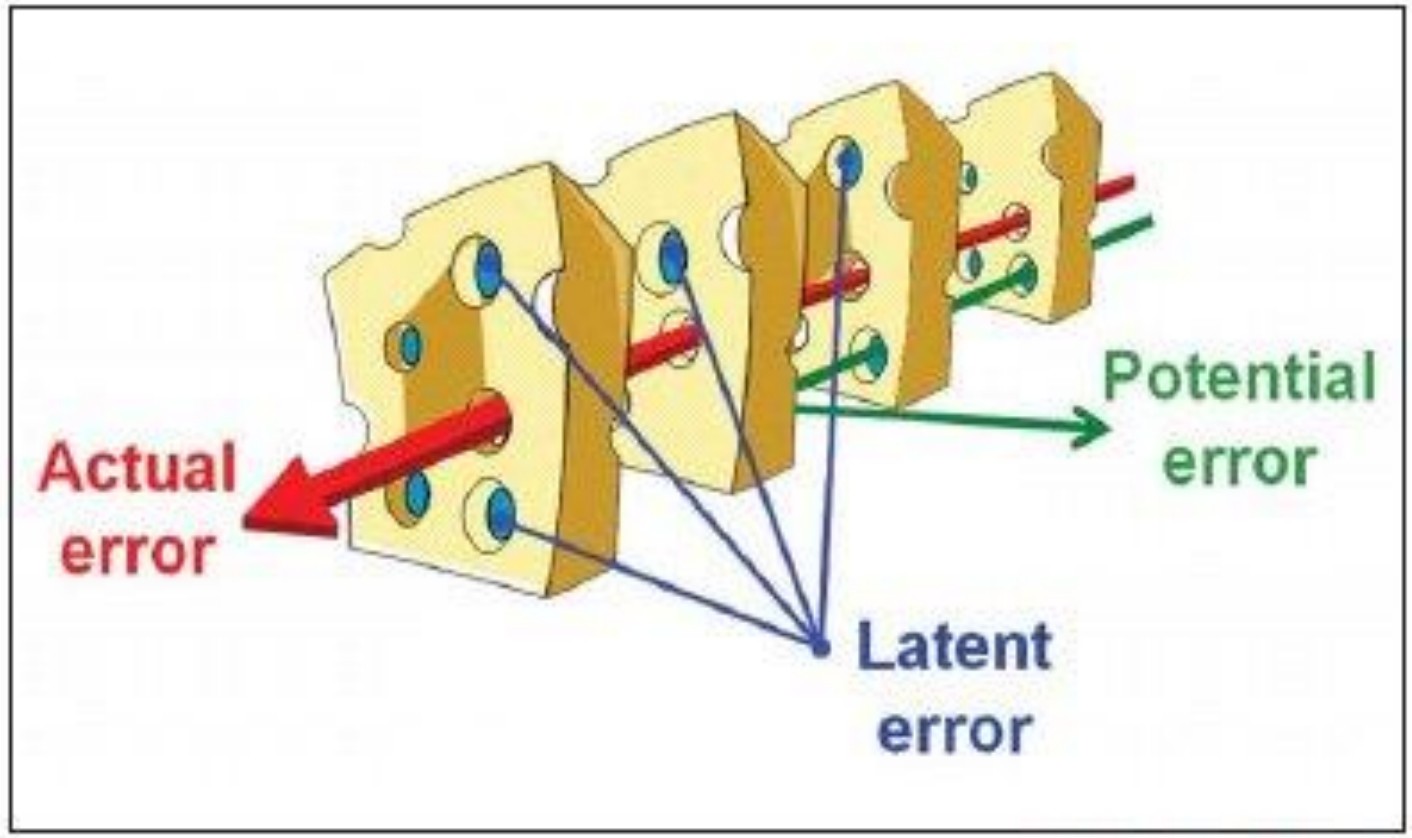
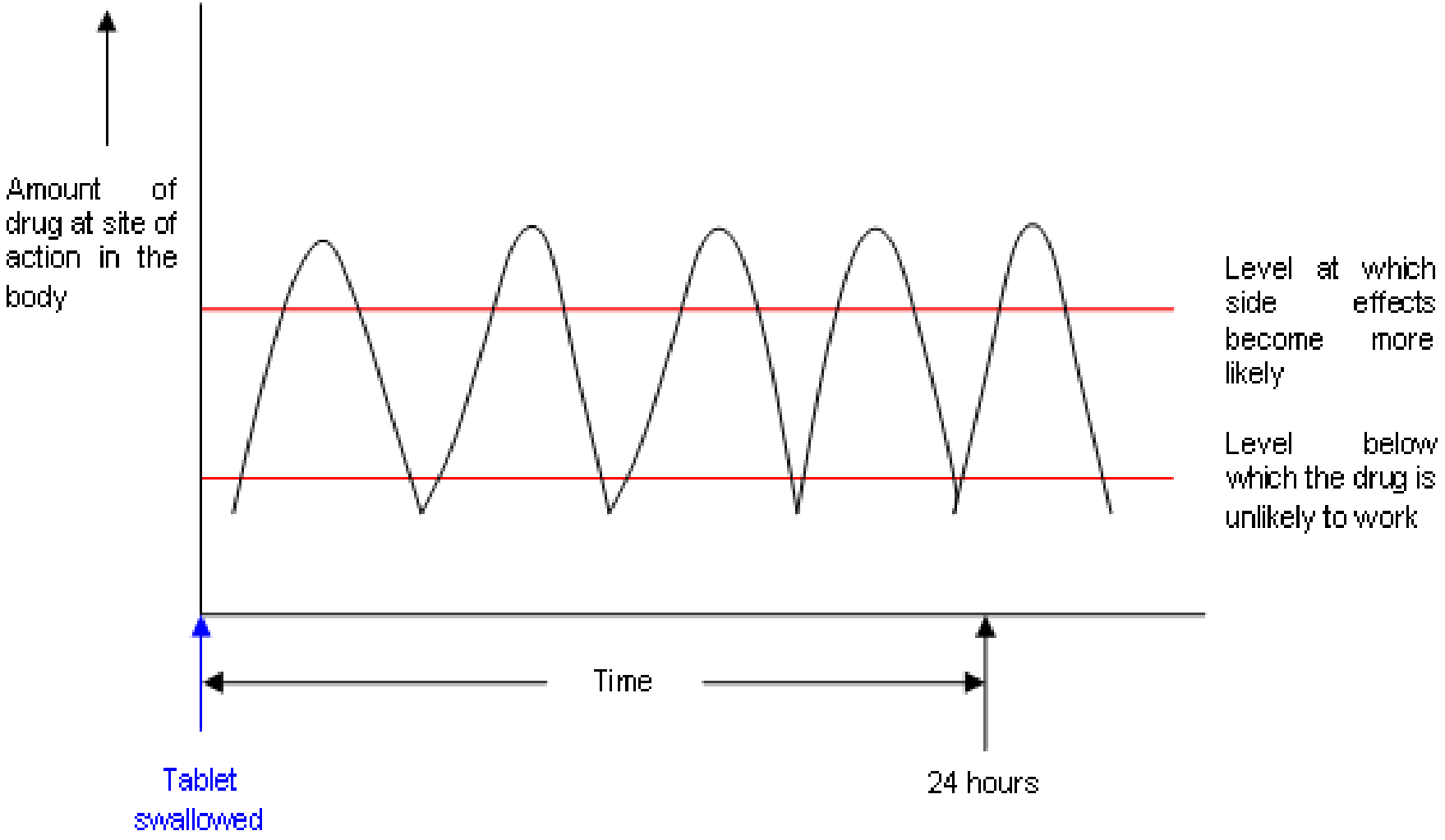
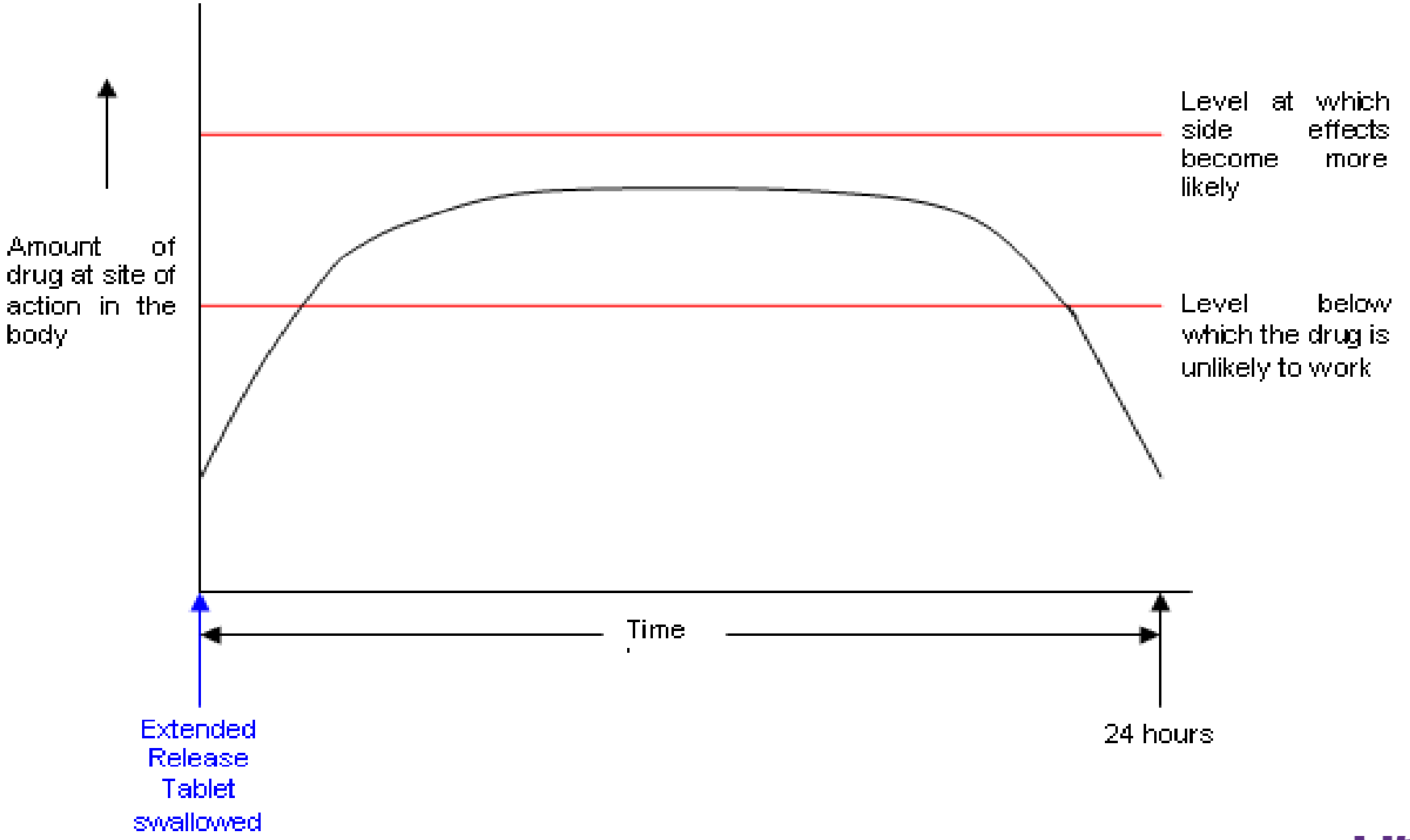


Figure 2: Error Trajectory

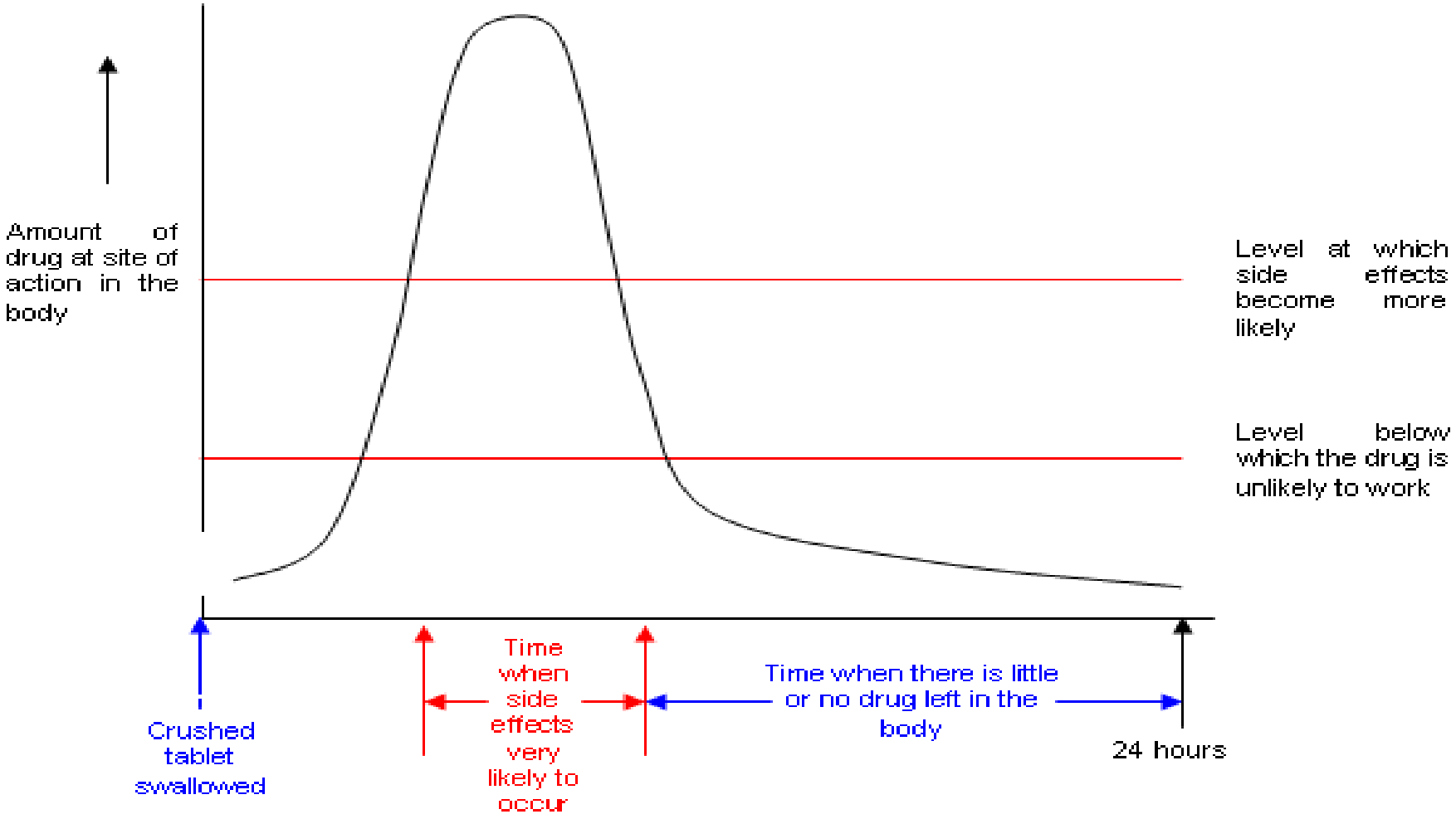
Drug Absorption



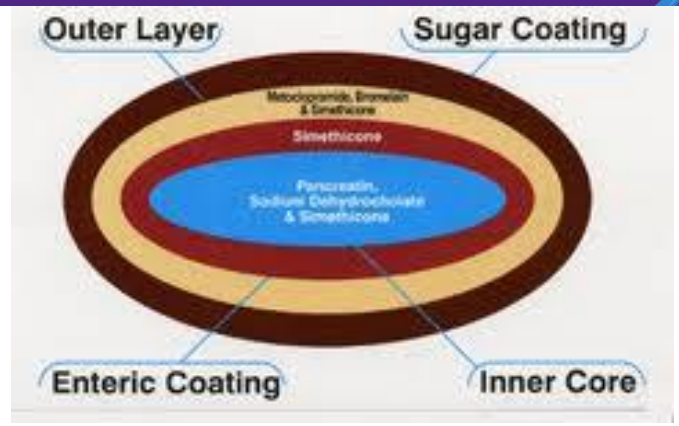
Modified release absorption



Modified release crushed



Enteric coatings



- Release at higher PH
  - To protect stomach
  - To protect the medicine
  - To deliver medicine to appropriate location

- Remove coating
  - Cause adverse drug reaction
  - Reduce medicine efficacy

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Film or sugar coatings

- Film or sugar coatings
  - To mask flavour
    - Quinine
  - To protect from skin sensitisation
    - Chlorpromazine
  - To protect from environment during storage

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Which of these can be safely crushed or opened?

A. Ibuprofen tablets
B. Methotrexate tablets
C. Diclofenac ec tablets
D. Mesalazine ec tablets
E. Dipyridamole m/r capsules

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Wrong preparation

- 65 preparation errors including:
  - Measuring 2.5mL dose of oramorph using cup
  - Inappropriate syringes used via enteral tube
  - Frequent non-flushing enteral tubes
  - 26 cases of mixing different medicines together before dispersing

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Is it safe to mix medicines with thickeners? QD3

A. I have absolutely no idea
B. There is no evidence to support doing so
C. There is evidence suggesting that it can stop medicines from being absorbed
D. Is it safe not to?
E. Probably, if you monitor for efficacy

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Summary

- Dysphagia creates medication errors
- Consider medicine, route, formulation, thickness
- Consider legality and covert administration
- Seek pharmacist advice prior to crushing
  - Options
  - Safety
- Crush and mix - monitor

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My main learning point is: QD4

a) Dysphagia increases medication errors

b) Only give medicines where benefits outweigh risks

c) Formulation tampering can be dangerous

d) Seek advice from a pharmacist

e) Thickeners and medicines – monitor for change in efficacy

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Thanks for listening
Any questions?