Welcome to Veterinary Pharmacology, Therapeutics and Toxicology

227.305

Pharmacology - why bother?

treatment options

- do nothing
- give drugs
- surgery
- change diet
- euthanasia
- all but first involve drugs!!

What do you need to know?

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- history
- clinical exam findings
- differential list
- lab tests?
- diagnosis

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What do you need to know to treat the piglets?

- treatment objectives?
- drugs likely to be active?
- side effects & interactions?
- monitoring required?
- pharmacokinetics?
- dose?
- cost?
- do the benefits outweigh the risks?

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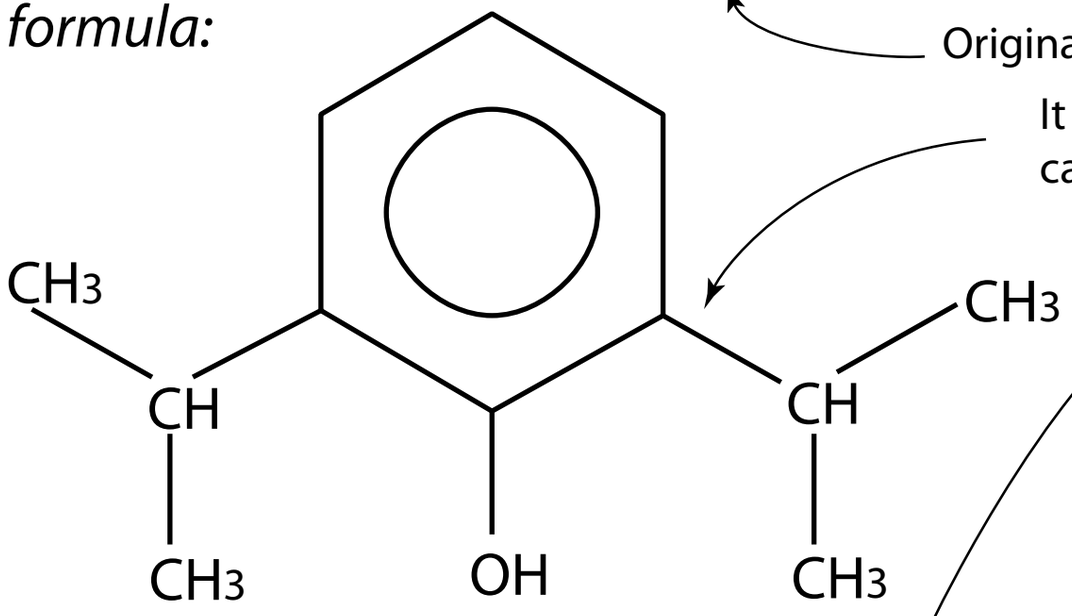
a digression on drug names

- every drug has several different names
- do not try to remember them all!
- remember “typical” drug from each class
- only drug given in a panic situation is adrenaline (epinephrine)
  - remember dose
  - 5 - 20*μ*g/kg, repeat every 5 mins

drug company number: **ICI 35 368**

Originally developed by ICI (now AstraZeneca).

formula:



It is sometimes useful to know a drug's structure: cats can have problems metabolising phenols.

There are two different international classifications for chemical names, IUPAC &CA

chemical name: **2,6 di-isopropylphenol**
2,6 bis(1 methylethyl)phenol

Chemical Abstracts Service Registry No. A unique no. applied by the American Chemical Society for use in their chemical database. Not much use to pharmacologists.

CAS number: **2078-54-8**

In the past drugs were approved by several different bodies, so older drugs may have different British Approved Names or United States Adopted Names. They are all supposed to be approved by the WHO now and have International Non-proprietary Names although these can be provisional (pINN) or recommended (rINN).

approved name: **propofol**

trade names:

veterinary: **"Rapinovet"** (Schering-Plough)
"Aquafol" (Parnell)

human: **"Diprivan"** (AstraZeneca)
"Propofol Inj" (Baxter)
"Propofol Inj" (Abbott)
"Recofol" (Pacific)

Propofol (the active ingredient) is formulated in a suitable vehicle for injection into animals. The original vehicle was a soya bean lipid emulsion. It was then sealed into vials and has different labels stuck on it for human or veterinary use (Diprivan or Rapinovet). Since the patent ran out, other companies are now making and selling propofol in different formulations, eg Aquafol is an aqueous solution.

Drug names

- Learn approved names
  - Usually BANs in NZ
  - USANs often different
  - INNs sometimes different again

Drugs likely to be active?

- antiseptics
  - chlorhexidine
  - iodine

Active drugs?

- antibiotics
  - penicillins
    - narrow spectrum
    - broad spectrum
  - cephalosporins
  - tetracyclines
  - etc, etc

Info you need to know

- antibiotics
  - penicillins
    - narrow spectrum
      - benzylpenicillin
        - » Na benzylpenicillin
        - » K benzylpenicillin
        - » procaine penicillin
        - » benzathine penicillin
      - phenoxymethylpenicillin
    - broad spectrum
  - etc

plus pharmacokinetics!

sources of info

1. scientific literature
2. textbooks
3. colleagues
4. www
5. drug companies
6. plus this course!

remember!

- This course is about analysing and evaluating, then using information, not remembering it!

administration

- semester 1 - 38 lectures
  - Tuesdays 2 & 3 pm SSLB4
  - Thursdays 8 am SSLB4
  - Fridays 11 am SSLB4
- Library project instead of practicals
- Study guide essential
  - also on web

Course objectives

By the end of the course you should be able to:

- apply your understanding of the effects, mechanism of action and uses of the major groups of drugs used to treat animals to allow you to formulate a safe, effective and legal treatment plan.
- be aware of drugs which are likely to be used in the near future.
- obtain further information on drugs.
- apply your understanding of pharmacokinetics to ensure that an animal receives the correct dose of drug.
- evaluate scientific and clinical reports of drug trials and apply this to veterinary practice.
- diagnose and recommend treatment of common causes of poisoning in animals.

Text books

- not necessary
- suggestions in study guide
- study guide is designed for reference
  - not memorising!!!
- CALVE web site

Assessment

- **Semester 1**
  - formative Stream MCQs x 5 7.5% 30min
  - team essay 15%
  - weekly therapeutics MCQs x 10 7.5% unlimited
- **Semester 2**
  - formative Stream MCQs x 5 5% 30 min
  - Stream therapeutics MCQ 20% unlimited
  - weekly therapeutics MCQs x 10 20% unlimited
  - team essay 24%
  - poster presentation 1%

Assessment

- Therapeutics MCQs
  - Designed to test depth of knowledge
  - Integration with other subjects necessary
- MCQs
  - Designed to test breadth of knowledge
  - ie, a large no. of very specific questions
  - marks for doing the test, not your score

practice tests

- questions in study guide at end of each chapter
  - answers for MCQs provided
  - it is up to you to use these
  - same questions on CALVE and Stream
    - practice tests only!

lectures

- timetable on web
- subject to change
- lectures on CALVE web site

Group work Sem 1

- Choose groups of four
- You will be given the titles of 2 papers
- Find out where the library is
- Go to the library and find your papers
- Decide on the major findings, reliability and relevance to veterinary medicine
- Write a 3000 word review
- hand it in by 20th May
- marks are shared equally between group

Group work Sem 2

- use the skills you learned in semester 1 to write a publishable review of a subject of your choice in depth
- more details next semester
- think about subjects as you do semester 1 work!!

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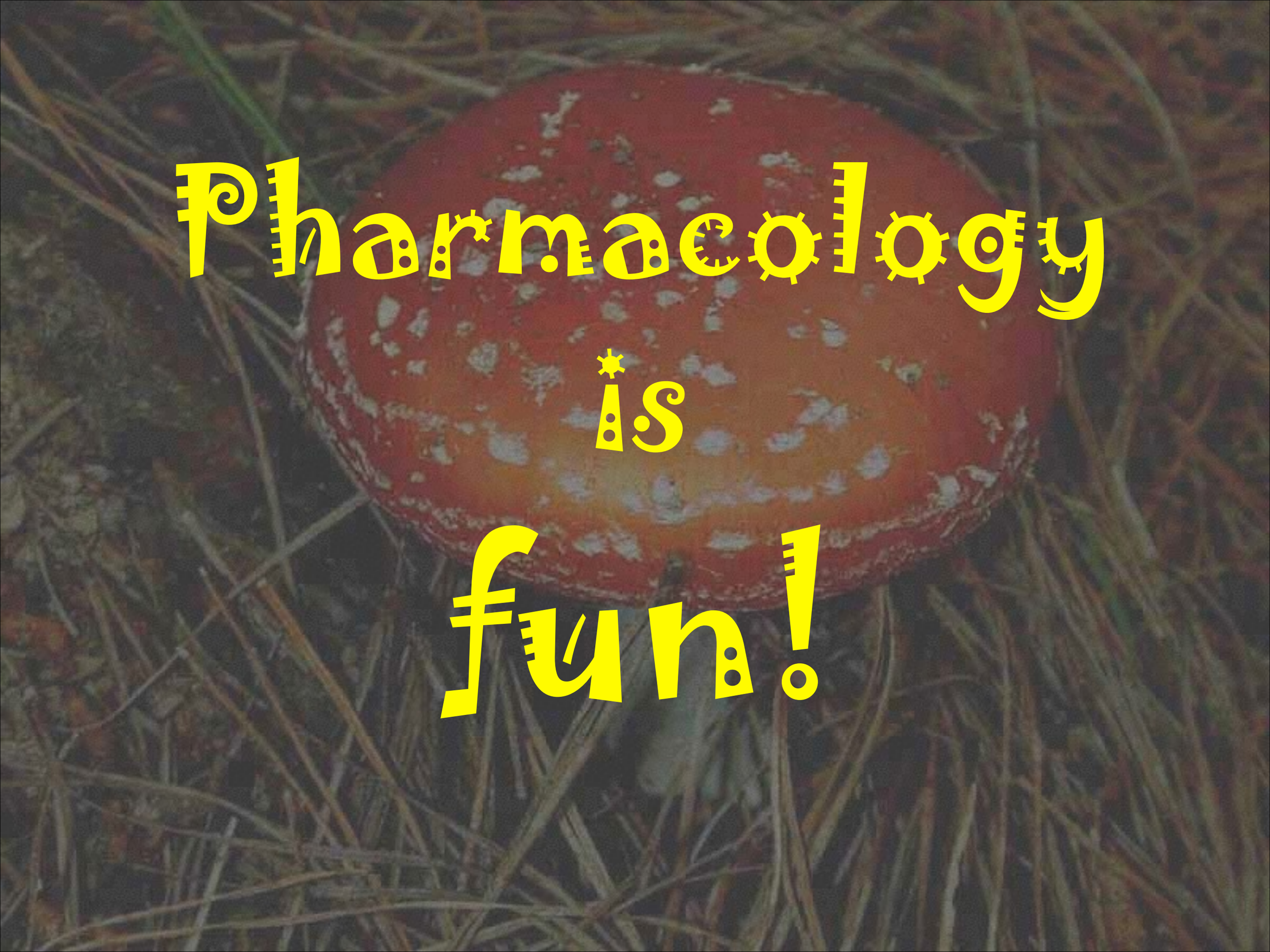
finally,

- the most important point


Pharmacology
is
fun!