Promoting Evidence Based Clinical Toxicology

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South Asian Clinical Toxicology Research Collaboration
Promoting Evidence Based Clinical Toxicology

- What do we mean?
  - Propagate
  - Produce

- What Evidence?
  - Where is it?
  - What do we have

- What Promotion?
  - Defined message
  - Targeted audience
  - Communication

- Do we have a strategy?
- What are we doing?
  - Who is doing it
  - How well are we doing?

- What can we learn from others?

- What could we do?
What does this mean?

-produce EBM
  - research
  - position statements

-propagate EBM

-do both?
Levels of evidence

I  Systematic review of all relevant RCTs
II One randomised controlled trial (RCT)
III\textsubscript{1} Well designed controlled trials (no randomisation)
III\textsubscript{2} Cohort or case-control studies
III\textsubscript{3} Multiple time series or dramatic results in uncontrolled experiments
IV  Expert opinion (traditional use)

- Case reports: 193
- Case series: 157
- Animal & In vitro: 77
- Epidemiology: 11
- Volunteer: 14
- Case-control: 6
- RCTs: 2

Tenenbein M. Good reasons to publish in Clinical Toxicology. Clin Toxicol 1998;36:137-138
Alternative Evidence-based Medicine

Where is our evidence

- Cochrane Reviews
- Systematic Reviews
- Consensus Statements
- Peer reviewed Publications
- Clinical Experience

Whatever we have needs to get out there
Promotion as Effective Communication
The EAPCCT has goals!
South Asian Clinical Toxicology Research Collaboration

- Foster a better understanding of the principles and practice of clinical toxicology in order to prevent poisoning and to promote better care for the poisoned patient particularly through poisons information centres and poisons treatment centres.
- Unite into one group individuals whose professional activities are concerned with clinical toxicology whether in a poisons centre, university, hospital or government or industry.
- Encourage research into all aspects of poisoning.
- Facilitate the collection, exchange and dissemination of relevant information among individual members, poisons centres and organisations interested in clinical toxicology.
- Promote training in, and set standards for the practice of, clinical toxicology and to encourage high professional standards in poisons centres and in the management of poisoned patients generally.
- Collaborate with international and integrational organizations including the WHO and European Communities.
- Establish and maintain effective collaboration with governments, governmental organisations, professional bodies and other groups or individuals concerned with clinical toxicology.
The gains are in hitting big targets

Are we aiming at the right target?
Are we using the right tools?
Promotion Objectives

❖ Build Awareness
  – effectively reach customers
  – tell the market who we are and what we have to offer.
❖ Create Interest
❖ Provide Information
❖ Stimulate Demand
Who does the promotion?

- Clinical Toxicologists
- Colleagues with Special Interest
- Colleagues with Less Interest
- Colleagues with Even Less Interest

**Quality**

**Target Population**
What do we do?

- Bedside Teaching
- Short and Long Courses
- Role of PIC
- Online database
- Scientific meetings
- Role of Professional societies
- Text Books
- Role of Journals

Context
- Specific

Structured
- Audience Size & Profit
Textbooks

- Expensive
- Inaccessible
- Irrelevant
- Non standardised, variable quality
- None systematically categorise evidence
- Inter and intra textbook variation
Range of times it would take to give adequate doses of atropine (23mg and 75 mg) following the expert advice from each text.
Journal of Toxicology

- Journal is 34th out of 75 journals in Toxicology
- Impact factor of 1.739
- Subscribers
  - 257 full-rate institutional
  - 237 EAPCCT
  - 650 AACT
- Position Papers: None are listed as EBM reviews
<table>
<thead>
<tr>
<th>Position Statements</th>
<th>Total Ovid Citations</th>
<th>&quot;In-house&quot; Citations</th>
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<tbody>
<tr>
<td>Gastric Lavage 2004</td>
<td>1</td>
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<tr>
<td>Whole Bowel Irrigation 2004</td>
<td>0</td>
<td></td>
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<tr>
<td>Cathartics 2004</td>
<td>0</td>
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<tr>
<td>Ipecac 2004</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Urine alkalinization 2004</td>
<td>3</td>
<td>3</td>
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<tr>
<td>Multi-dose charcoal 1999</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Whole Bowel Irrigation 1997</td>
<td>13</td>
<td>9</td>
</tr>
<tr>
<td>Cathartics 1997</td>
<td>6</td>
<td>2</td>
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<tr>
<td>Single-dose charcoal 1997</td>
<td>22</td>
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<tr>
<td>Gastric lavage 1997</td>
<td>15</td>
<td>9</td>
</tr>
<tr>
<td>Ipecac syrup 1997</td>
<td>9</td>
<td>5</td>
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### Cochrane

<table>
<thead>
<tr>
<th>Intervention</th>
<th>Total Ovid Citations</th>
<th>“In-house” Citations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alkalisation Organophosphorus pesticide poisoning 2005</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>Hyperbaric oxygen CO 2005</td>
<td>13</td>
<td>3</td>
</tr>
<tr>
<td>Oximes for acute OP 2005</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>Paraquat &amp; immunosuppressive 2003</td>
<td>3</td>
<td>1</td>
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<tr>
<td>Interventions for paracetamol 2002</td>
<td>6</td>
<td>2</td>
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</tbody>
</table>

### American Heart Association


9655
American Heart Association versus Clinical Toxicology

Franchise versus Boutique
What can we learn from others?

- Brand recognition
- Product Supply
- Leverage of multiple providers
- Integration into accreditation

Can we upsize and have a nice day?
How big is your toxicology folder?
How often do you use those files?
I will show you mine

...even if you wont show me yours
Searching for enlightenment in the new information age
New Information Paradigm

- Open access publishing
- Open source development
  - Organic and iterative
  - Faster
  - Free distribution of code among computer programmers ........ a more effective process for building intellectual products
  - Altered how intellectual products are created and protected
1. Creativity and innovation always builds on the past.

2. The past always tries to control the creativity that builds on it.

3. Free societies enable the future by limiting the past.

4. Ours is less and less a free society.

Lawrence Lessig 2002
Copyright is the right to copy
Rahmat Awang 2002

Liberate your hard discs
Dawson 2006
What could we do?

- Become global content providers
  - Utilise methods of delivery & production
  - Give it away

- Find Partners: Increase the leverage and sales force
  - Incorporate into courses
    - Undergraduate
    - Compulsory Curses/Courses
    - Elective Speciality Courses
Core Curriculum

Create an outline of the curriculum

Identify target audiences e.g.
- Nurse
- Poison Information Specialist
- Medical Undergraduate
- Medical Postgraduate (non-speciality)
- Medical Postgraduate (Specialist)

Nominate the target audience that is relevant for the specific area of the curriculum

Content
- Identify Content Sources
  - Acquire Content
  - Assess Content
- Explore methods of collation and distribution
  - Internet based
    - Use of existing scientific meetings
- Promote and Integrate
  - Curriculum
  - Self Study
<table>
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<tr>
<td><strong>Preventing Health Risks From The Use Of Pesticides In Agriculture.</strong></td>
</tr>
<tr>
<td><strong>The WHO Recommended Classification of Pesticides by Hazard</strong></td>
</tr>
<tr>
<td><strong>Instructions For Treatment And Use Of Insecticide-treated Mosquito Nets.</strong></td>
</tr>
<tr>
<td><strong>Pesticide Training Tool Kit A Guide for Community Workers</strong></td>
</tr>
<tr>
<td><strong>International Code of Conduct on the Distribution and Use of Pesticides.</strong></td>
</tr>
<tr>
<td><strong>Images Archive</strong></td>
</tr>
<tr>
<td><strong>PowerPoint Templates</strong></td>
</tr>
</tbody>
</table>

**Content**
- Preface
- Introduction
- Part 1
- Part 2
- The Modules
- Other Materials
- Acknowledgement
B. PRIMARY HEALTH CARE WORKERS

Subject A: Should know the importance of history, and the symptoms and signs of poisoning from all the chemical groups in the area. (See note below.).

Subject B: Should know the general principles of the management of cases of poisoning. May need to know specific treatment for cases of poisoning by some chemical groups.

Notes to trainers
Depending on the level of training of primary health care workers, it may be more appropriate for the trainer to use the modules in Module 6.

Subject A: Signs and Symptoms

- History
- Organophosphorus Poisoning
- Carbamate Poisoning
- Organochlorine Poisoning
- Pyrethroid Insecticide Poisoning
- Anticoagulant Rodenticide Poisoning
- Calciferol Derivatives Poisoning
- Fluoroacetate Poisoning
- Zinc Phosphide Poisoning
- Chloralose Poisoning
- Thallium Poisoning
- Paraquat and Diquat Poisoning
- Glyphosate Poisoning
- 2, 4 Dichlorophenoxyacetic acid Poisoning
- Pentachlorophenol and Related Compounds
- Arsenic Poisoning
- Organic Mercury Poisoning
- Organotin Poisoning
- Copper Salts Poisoning
- Thiocarbamate Poisoning
A. MEDICAL STAFF, AND TRAINED NURSING STAFF

Subjects A and B:
Should know the importance of history, the symptoms and signs,
and the treatment of cases of poisoning from all the chemical groups used by applicators or
available to the public in their area.

Subject A: Signs and Symptoms

- History
- Organophosphorus Poisoning
- Carbamate Poisoning
- Organochlorine Poisoning
- Pyrethroid Insecticide Poisoning
- Anticoagulant Rodenticide Poisoning
- Calciferol Derivatives Poisoning
- Fluoroacetate Poisoning
- Zinc Phosphide Poisoning
- Chloralose Poisoning

Thallium Poisoning
Paraquat and Diquat Poisoning
Glyphosate Poisoning
2, 4 Dichlorophenoxyacetic acid Poisoning
Pentachlorophenol and Related Compounds
Arsenic Poisoning
Organic Mercury Poisoning
Organotin Poisoning
Copper Salts Poisoning
Thiocarbamate Poisoning
IPCS Model

- Define a core curriculum
- Identify the target Audiences
- Identify which parts are relevant to various audiences
- Populate the curriculum with quality content
- Give freely to local providers
TRAINING FOR THE HEALTH SECTOR

[Date ...Place ...Event...Sponsor...Organizer]

THE PAEDIATRIC ENVIRONMENTAL HISTORY:
A TOOL FOR HEALTH CARE PROVIDERS

Children's Health and the Environment
WHO Training Package for the Health Sector
World Health Organization
www.who.int/ceh
The Core Content of Medical Toxicology


PREAMBLE

In December 2002, the Medical Toxicology Subboard, composed of representatives from emergency medicine, pediatrics, and preventive medicine, approved a new Core Content of Medical Toxicology. The Core Content encompasses the specialty of medical toxicology and outlines the areas of knowledge considered essential for the practice of medical toxicology. Functionally, the Core Content provides the organizational framework for the development of the medical toxicology certification and recertification examinations and details the knowledge to be tested on those examinations. In addition, the Core Content may serve as a template for the development of medical toxicology fellowship curricula.
Deliver a wiki

www.curriculum.toxicology.wikispaces.net
Curriculum Area | Decontamination: Activated Charcoal
--- | ---
Target Audience | All
Source Materials | Position Statements, New York Course notes. Powerpoint presentation Newcastle Australia

Curriculum Area | Enhanced Elimination: Haemodialysis
--- | ---
Target Audience | Medical Postgraduate
Source Materials | London Course Notes, review article pdf PPT presentation
The Promotion of Evidence Based Toxicology requires us to enter the new information era

- Expand our goals
- Global not Societal
- Content Providers
  - Liberate our hard discs
  - Shed copyright inhibitions
  - Find partners
- Utilise the new tools

www.curriculum.toxicology.wikispaces.net