

# Trends from the UHWI of non-fatal intentional and accidental self-poisoning with benzodiazepines, phenothiazines, tricyclic antidepressants, paracetamol and non-steroidal anti-inflammatory drugs

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# Introduction



## Pharmaceuticals- Benefits

developed -to provide therapy-for illness  
- to maintain health

*“Medicine is a collection of uncertain prescriptions, the results of which, taken collectively, are more fatal than useful to mankind.”*

Napoleon Bonaparte (1769-1821)

# Introduction

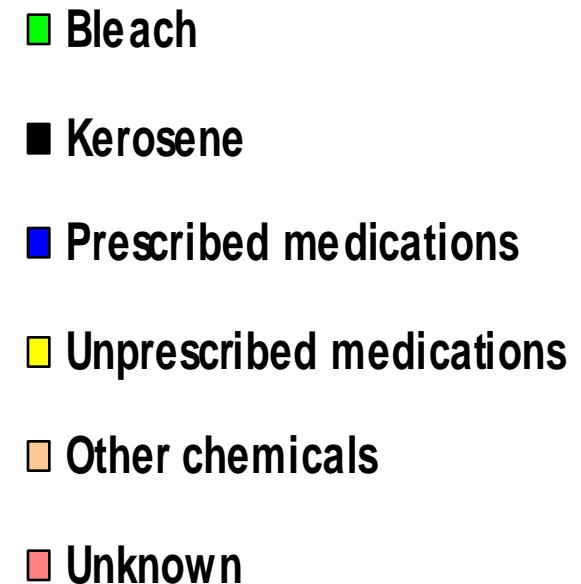
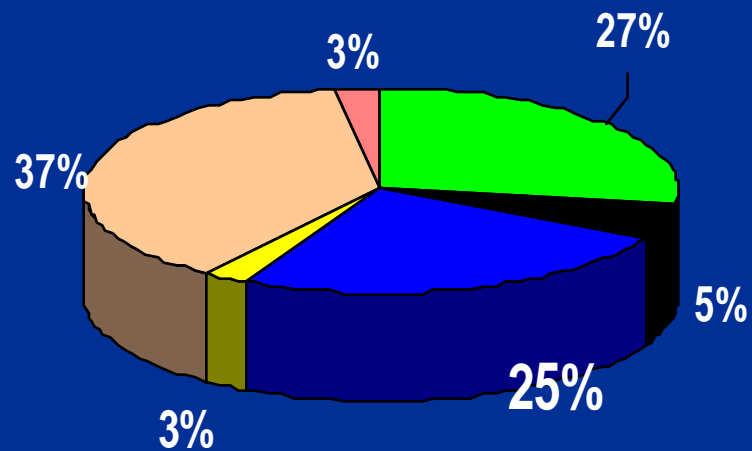
## Pharmaceuticals -Misuse



Accidental self-poisoning

Intentional self-poisoning

# Distribution of Causes of poisoning in children admitted to UHWI Jan 98-June 2001



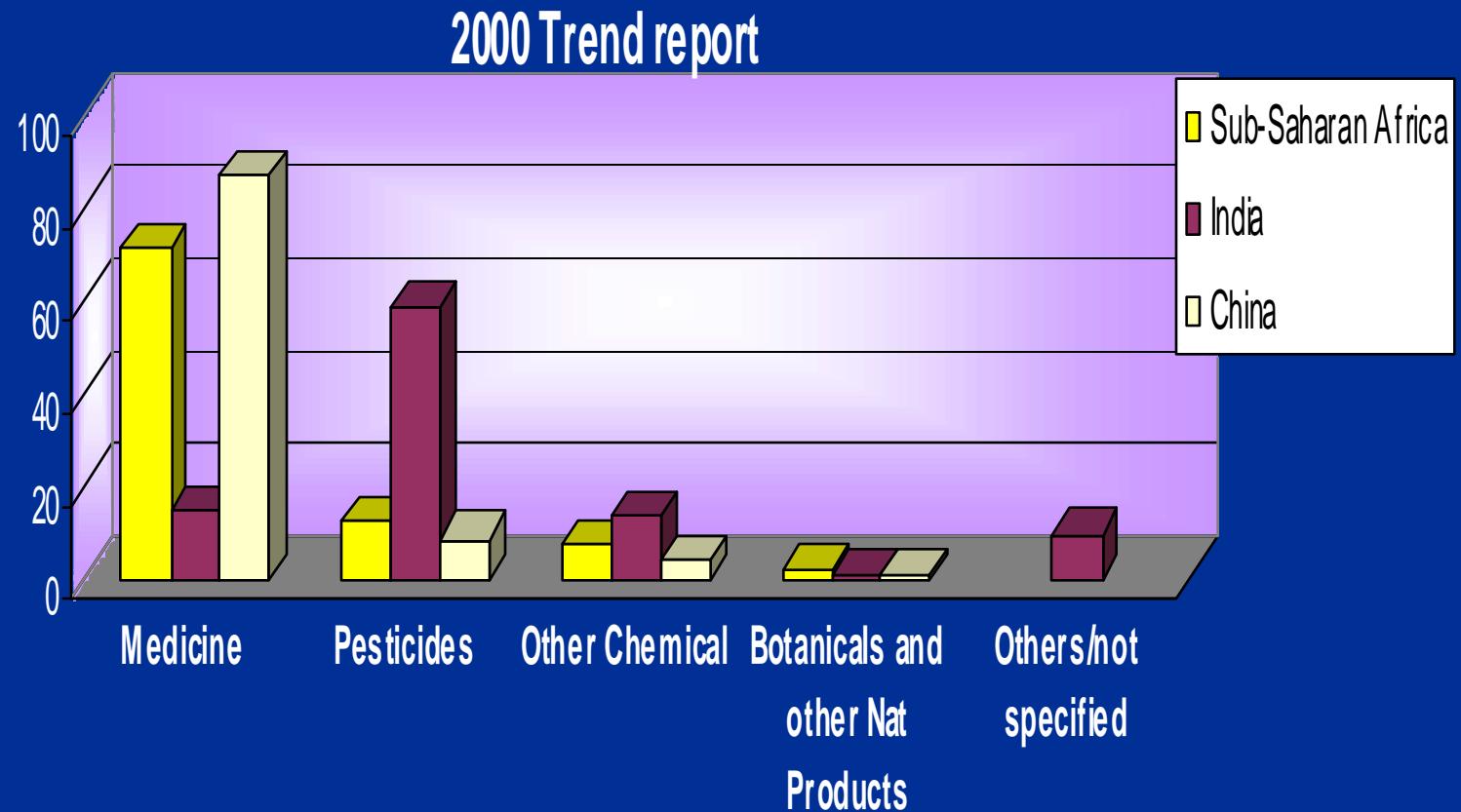
*D. L. Ferron-Boothe et al*  
*Department of Surgery, Radiology and Anaesthesia, University*  
*of the West Indies, Mona*

# Self-poisoning: Global trends



- Accidental most likely <5 yrs group
- Intentional predominance
- Intentional-Female predominance
- Intentional-Age predominance: 15-29 yrs

# Trends Intentional Self-poisoning



M. Eddleston Q J Med 2000; **93**: 715-731

# Global trends- Drug Involvement



## 1970s/1980s

Mainly psychotic drugs: barbiturates  
benzodiazepines  
antidepressants

## 1990-current

Increasing use of paracetamol

UK in 2000- 50% paracetamol related

# Aim

To examine the trends of drug associated non-fatal self-poisoning among patients hospitalized at UHWI

specific interest :

1. psychotics: benzodiazepines, TCAs and phenothiazines
2. analgesics: paracetamol and NSAIDs.

# Method

## University Hospital of the West Indies (UHWI)

- 500 beds
- Provides all the major medical specialist services
- Teaching institution

# Method-Data Collection

Hospital computerized records

All hospitalizations

January 1, 2000- December 31, 2005  
associated with self-poisoning due to:

- Benzodiazepines
- Phenothiazines
- TCAs
- Paracetamol
- NSAIDs.

# Method-Data Collection

## Computerised data documented

- Intentional vs Accidental
- Gender
- Age
- Drug involved-coded
- Hospitalization period

# Data analysis

Statistical software SPSS version 12

- *Frequency distributions*
- *Chi-square analysis*

# Results

**Non-Fatal: 109**

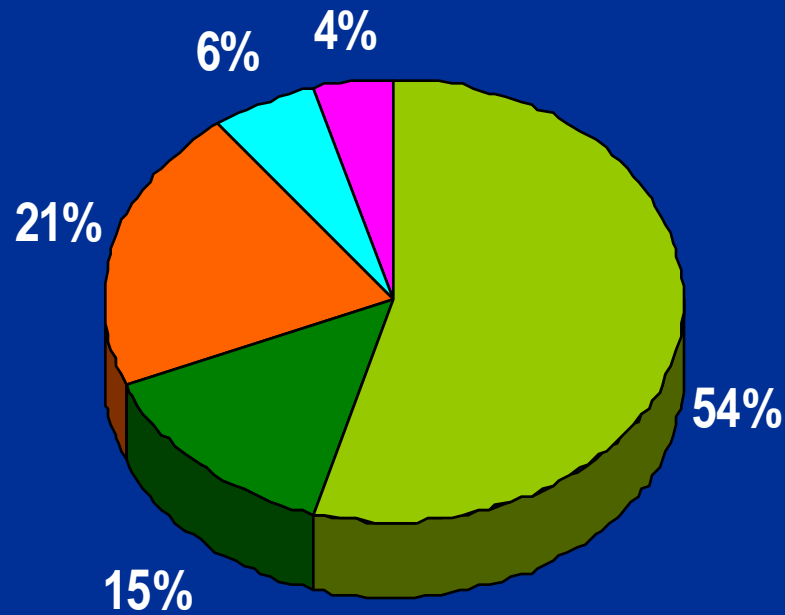
**of 104,350 admissions (10%)**

**Accidental: 5**

**Intentional: 103 (97%)**

**Undetermined intent = 1**

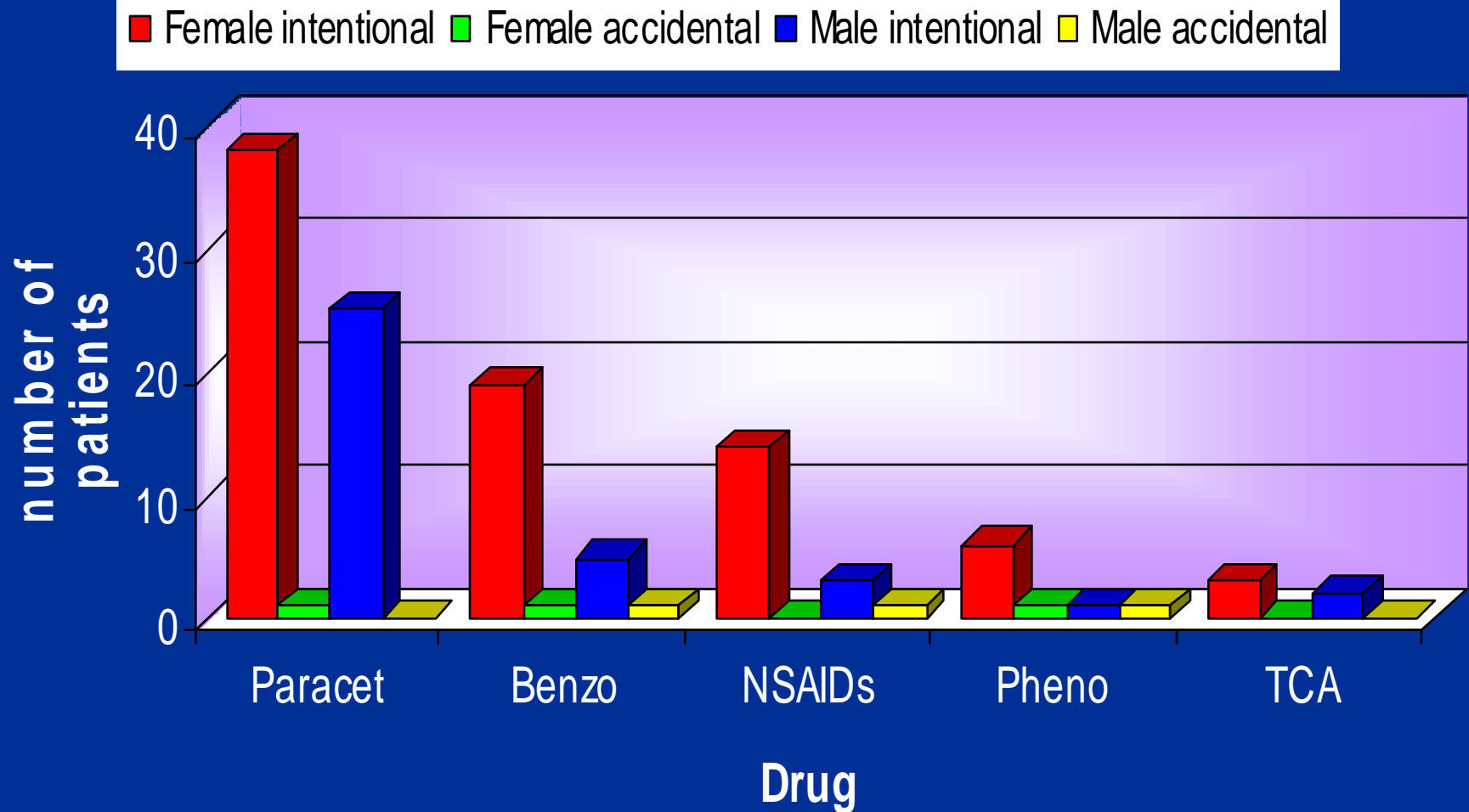
# Distribution intentional self-poisoning (N = 103) vs drug used



- Paracetamol
- NSAIDs
- Benzodiazepines
- Phenothiazines
- TCA

# Gender Difference

1 Male : 2.2 Female P<0.001



# Accidental-Drug Involved vs age

Age/ yrs	Drug	# of patients
0-10	Benzodiazepines	1
	NSAIDs	1
	Phenothiazines	1
11-20	Paracetamol	1
	Benzodiazepines	1

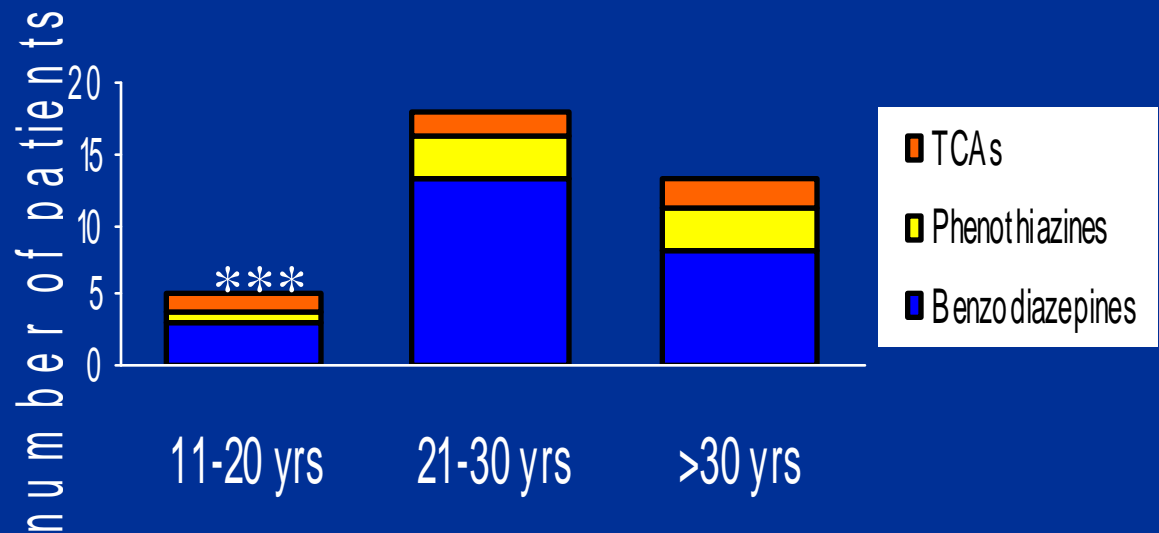
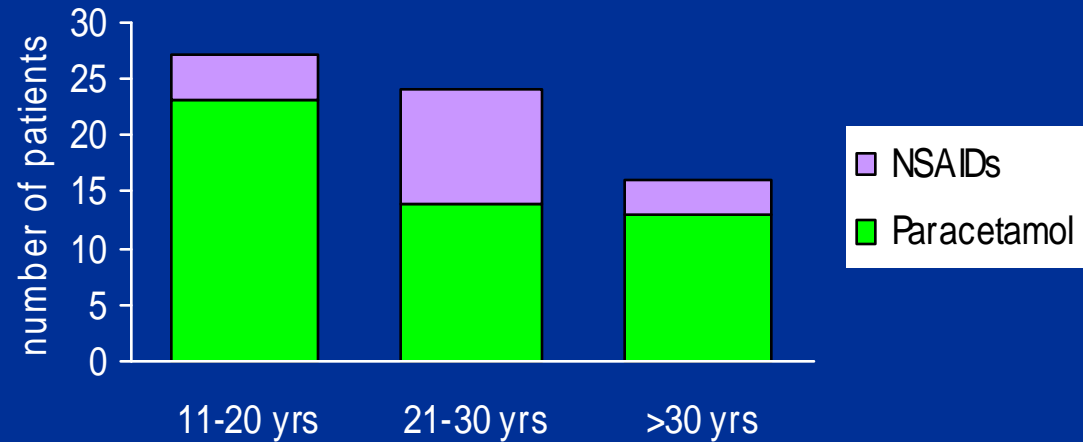
Maximum age = 16 yrs

# Intentional-Drug Involved vs age

11-20 yrs N= 32

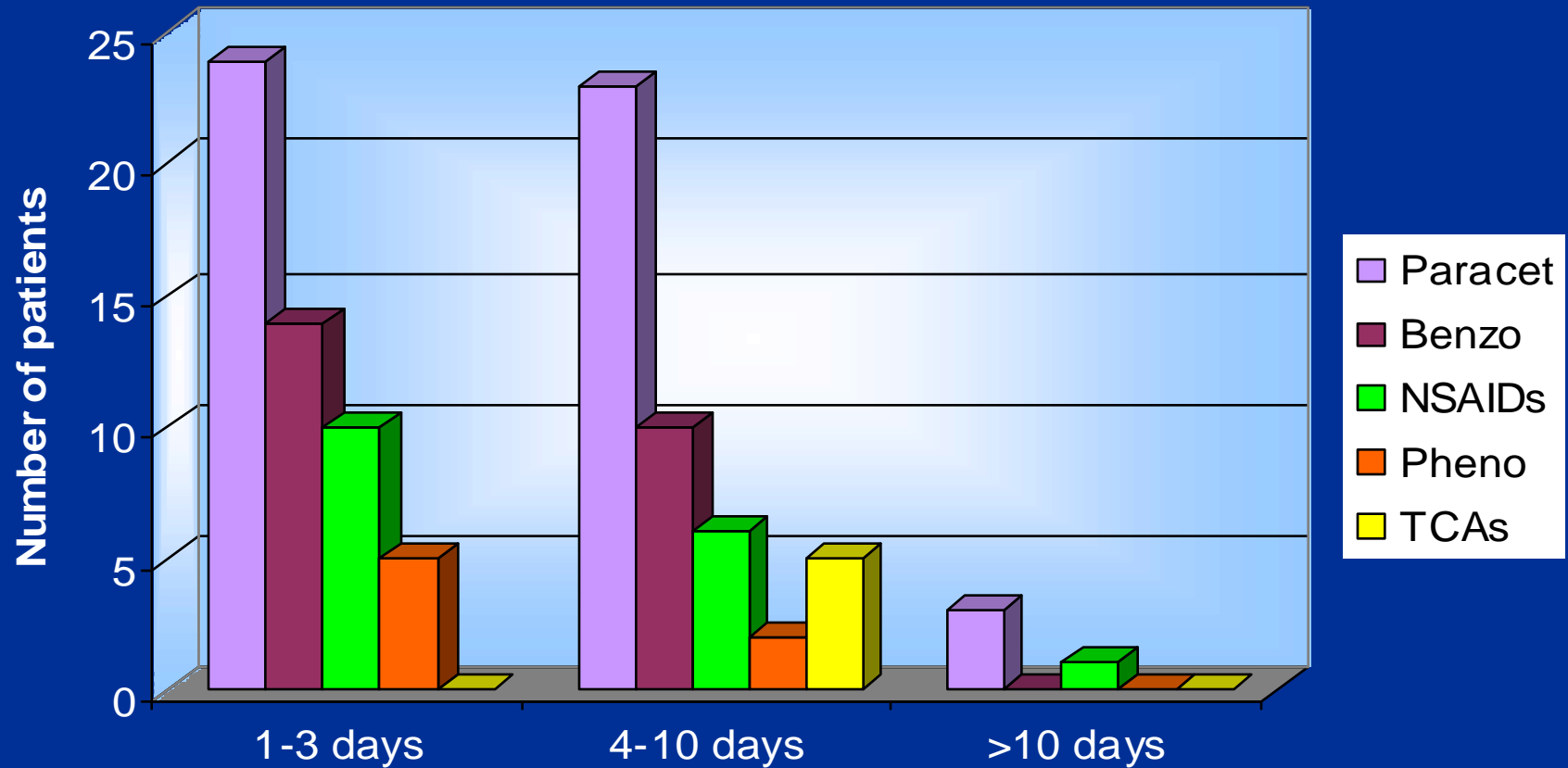
21-30 yrs N= 42

>30 yrs N= 29



\*\*\* P < 0.001

# Days of Hospitalization



# Conclusions

At the UHWI (2000-2005)

- ✓ Non-fatal self-poisoning (selected drugs)  
= 10% Hospitalizations
- ✓ Intentional predominance
- ✓ Accidental self-poisoning involved  $\leq 16$  yrs
- ✓ Intentional Female predominance

# Conclusion

- ✓ Predominance of paracetamol involvement (54% )
- ✓ Most cases self- poisoning resulted in 1-10 days of treatment in hospital
- ✓ numbers represent a potential burden to the health sector

# Public Health Burden

✓ Additionally, patients with intent to harm self



follow-up counselling  
cost to the health sector

# Major Concern

For 11-20 years old (intentional)  
analgesics vs psychotropics

= significantly greater representation

Expected= greater access

# Limitations

- Retrospective-possible missed data
- Involvement of other drugs-not recorded
- Involvement of more than one agent
- Fatally data would have made results more complete

# Paracetamol-hepatotoxicity

## PARACETAMOL

↓ > 90%

Conjugated  
Non-toxic  
metabolites

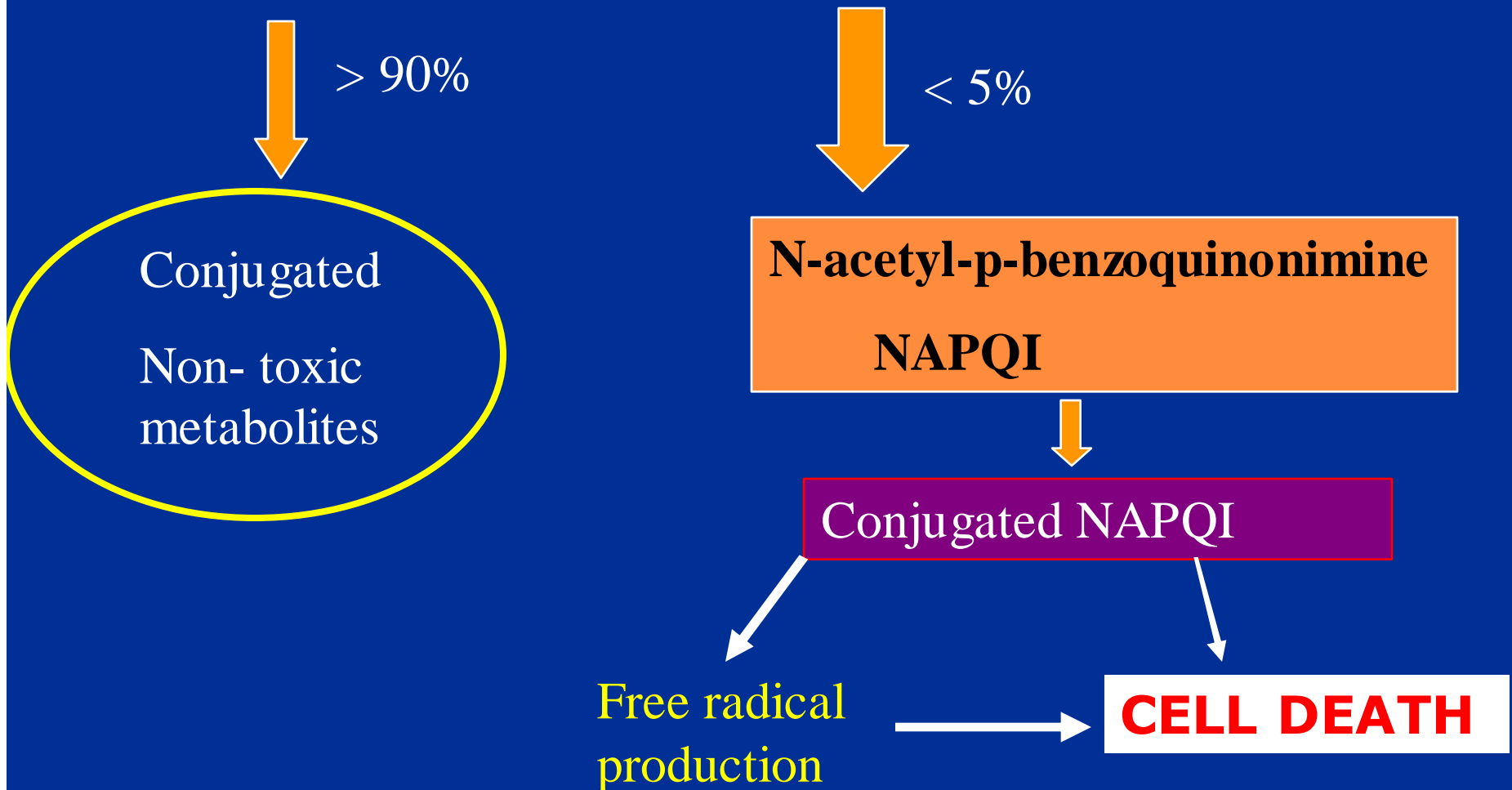
↓ < 5%

**N-acetyl-p-benzoquinonimine**  
**NAPQI**

Conjugated NAPQI

Free radical  
production

**CELL DEATH**



# PARACETAMOL FACTS

Patients attempting self-poisoning

not aware that  
overdose was a  
slow onset  
hepatotoxicity

3-4 days

some patients  
thought overdose  
would cause  
sedation and even  
unconsciousness

not aware that  
< 10% of the  
overdose cases  
were likely  
cause death

Hawton K, Br Med J. 1995; 310:164.

# Example

In England

Only 0.6% of the paracetamol related poisoning resulted in death

**S L Greene. *Postgraduate Medical Journal* 2005;81:204-216**

# Recommendations

Examine the accessibility of analgesics to adolescents

# Recommendation

*"if patients were aware of the process, they would not attempt suicide with paracetamol"*

*Soc Psychiatry Psychiatr Epidemiol 2001*

Make adolescents (public) more aware of effects of paracetamol overdose