**Human Health and Toxicology**

**Chapter 17 ICA**

WHO =

 Provides information on:

Disease =

 Morbidity =

 Mortality =

Three major Categories of Health Risk:

 1.

 2.

 3.

Categories of Environmental Risk:

Infectious Organisms:

Six Main Diseases – cause the most deaths

 1.

2.

 3.

 4.

 5.

 6.

Pathogens –

|  |  |
| --- | --- |
| Low Income | High Income |
|  |  |
|  |  |

Important Diseases:

 Historically Important

Plague-

 Malaria –

 Tuberculosis –

 Emergent Diseases-

 Spread more easily –

 HIV/AIDS –

 Ebola –

 Mad Cow Disease –

Antibiotic Resistance –

**Toxicology**

Hazardous-

Toxins –

Chemicals of concern –

|  |
| --- |
| Neurotoxins |
| Carcinogens |
| Teratogens  |
| Allergens |
| Endocrine disruptors |

Natural and Synthetic Toxins:

Physical Agents – Trauma and Stress

Diet and good health-

Toxicology Studies:

 Dose =

 Response=

 Acute Effect =

 Chronic Effect =

Persistence:

Bioaccumulation –

Bio magnification –

Synergism =

|  |  |
| --- | --- |
| Determining Toxicity:  |  |
| Case Reports: |  |
| Laboratory Investigations |  |
| Epidemiology |  |

Animal Testing - problems with:

LD50 =

FIFRA –

TSCA -

Use LD50 results to set standards.

 Safe for animals - LD50  ÷ 10

 Safe for humans - LD50  ÷ 10 ÷ 10 then ÷10 again just to be sure.

**RISK**

Risk Analysis –

Risk Assessment

Risk Acceptance

Risk management

Innocent-until-proven-guilty Approach

Precautionary Principle

Stockholm Convention

REACH