

Needs of Ethical Consideration in the System of Radiological Protection

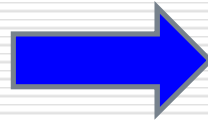
Group 2

Background

- ❑ **Given: Value judgments based on ethics are incorporated, explicitly or implicitly, in many parts of the system of RP**
 - ❑ **Environment of RP changes**
 - **Major radiological events (e.g. A-bomb, Chernobyl accident, Fukushima accident)**
 - **Stream of thought on Value**
 - **Revolution in communication (Internet, SNS)**
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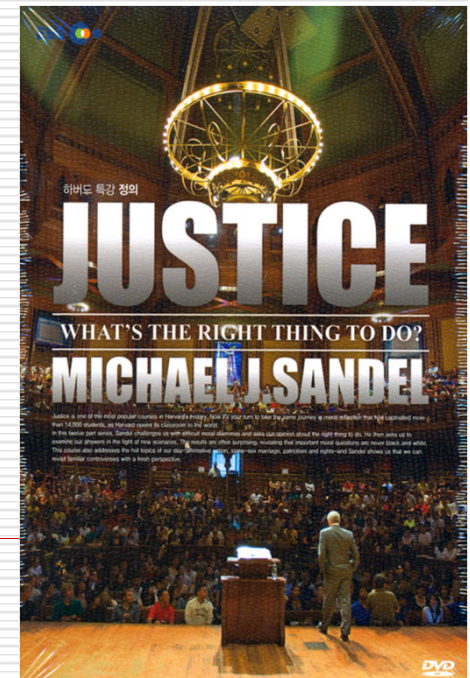
Stream of Thought

Utilitarian
Collective value



Justice
Individual Right

- ❑ *Trivial risk* is not necessary
Acceptable risk, and vice versa
- ❑ Acceptability may differ after
who imposes the risk
- ❑ Stakeholders' voice in
judgment



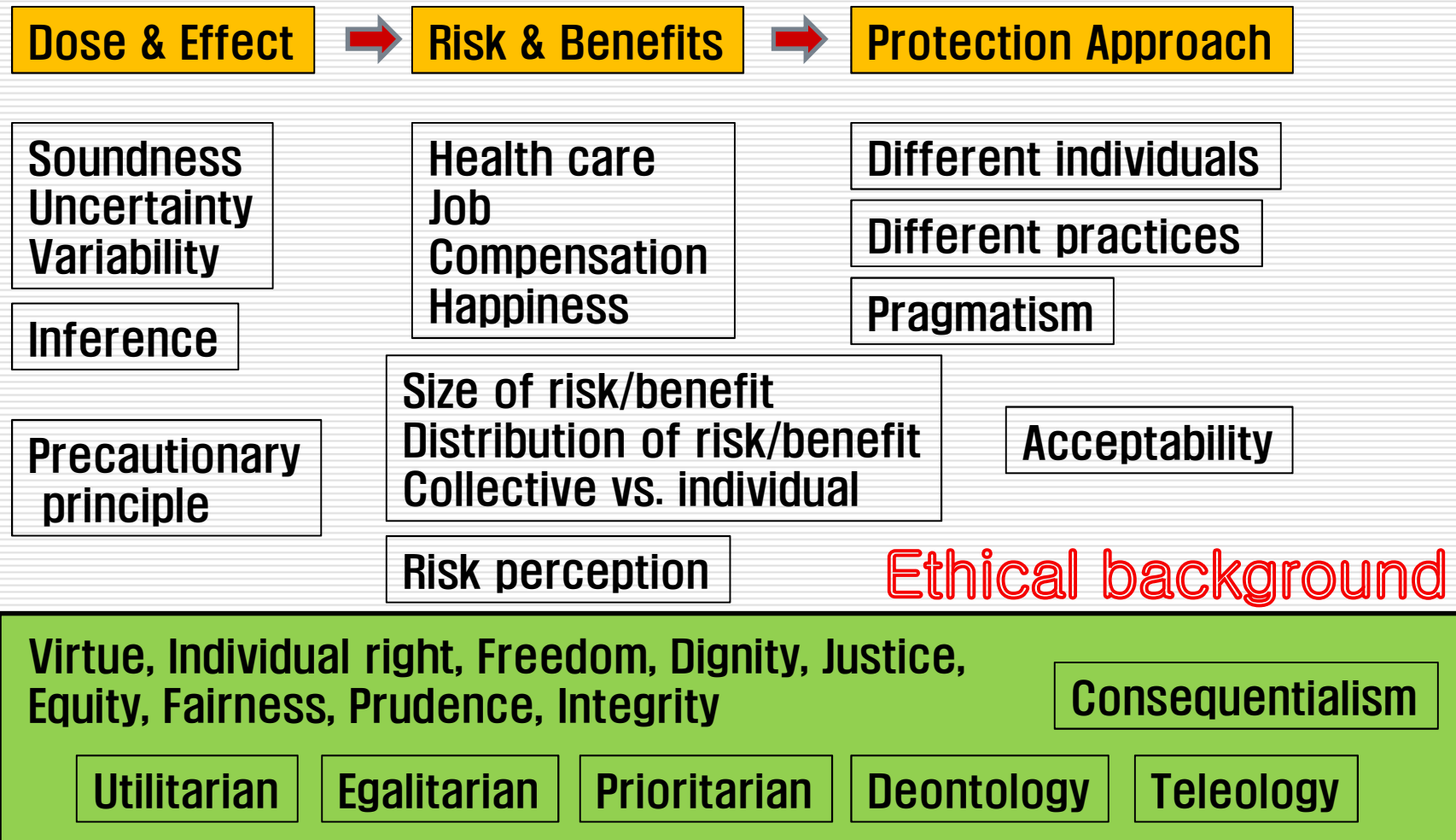
Objective

- ☐ Identify ethical values in the system of RP and any ethical issues in front of RP
 - ☐ What could be ethically challenged?
 - ☐ What are needed from ethical view point?
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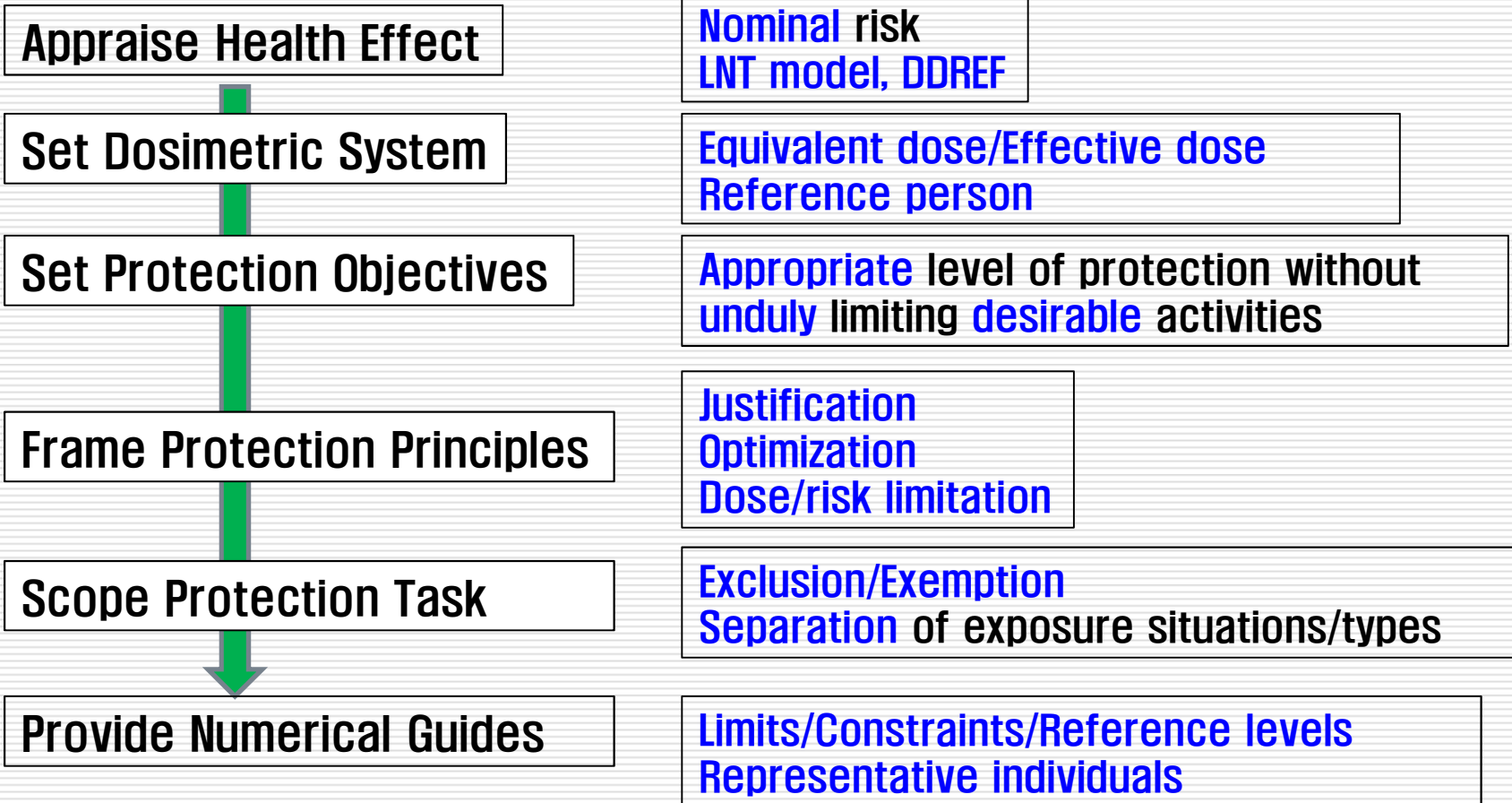
Approach

- ☐ Identify ethical elements in RP system
 - Judgment, modeling
 - ☐ Project current or potential issues/questions/challenges on the ethics domain
 - ☐ What do we need improvement?
 - ☐ Issues first, Answers later
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Elements of Ethical Consideration



Protection System Elements involving Judgment



Health Effects

- ☐ Sufficient knowledge?
 - ☐ LNT model
 - Prudent enough?
 - ☐ **Nominal** risk approach: sound?
 - Genetic susceptibility
 - Smoker/non-smoker(Rn risk)
 - Conceptus/children
 - ☐ DDREF: Still needed?
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Dosimetry

- ☐ **Macrodosimetry(mean absorbed dose)**
 - ☐ **Radiation weighting factors**
 - w_R of low energy beta: sound?
 - ☐ **Tissue weighting factors**
 - ☐ **Reference person: higher percentile?**
 - Physiology
 - Nutrition data
 - ☐ **Operational quantities: conservative?**
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Objective of Protection

- ❑ The proviso ‘without unduly limiting desirable activities’ is needed?
 - ❑ What is ‘appropriate’ ?
 - Do we need a quantitative objective?
 - ❑ Commission vs. Omission
 - Is moral reprehensibility different?
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Principles

☐ Justification

- Who does justify?
- On what ground?

☐ Optimization

- Optimize what? How?
- Indirect cost? E.g. Psychological cost

☐ Dose/Risk Limitation

- Who decide 'acceptable' ?
 - Size of acceptable risk?
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Scope & Approach

☐ Exclusion

- Normal background ?

☐ Exemption

- Is it not utilitarian thinking?

☐ Different approach is reasonable?

- Natural vs. Artificial
 - Creating exposure (practice) vs. Reducing exposure (intervention)
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Simplification/Separate Approach

- ☐ Exposure situations
 - Prudent enough?
 - ☐ Exposure types
 - ☐ Exposed persons
 - How well respect right of individuals?
 - Who are members of the public?
 - Informed consent
 - ☐ Full free consent?
 - ☐ Consent from members of the public?
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Numerical Guidance

- ☐ Consensus on the limits?
 - ☐ Adequate protection of minors?
 - ☐ How a person becomes an emergency worker?
 - ☐ What about the activity criteria for **foodstuffs**?
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Others

- ☐ Any other areas involving ethical decision?
 - ☐ Lessons learned from Fukushima?
 - ☐ Opportunity of individual control over risk?
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Results

- ❑ Ethical considerations have been incorporated well in the System of RD
 - From utilitarian to deontological ethic
 - ❑ However need critical review to examine if individual right to happiness (or justice) is respected enough, particularly for the minors
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Results 2

- ❑ ICRP should provide more friendly the rationale behind the judgments important in RP
 - Justification of using nominal risk
 - Basis of dose limits
 - Basis of selecting reference person, representative individual
- ❑ The term *members of the public* should be defined more rigorously
 - Need to distinguish from informed individuals with certain benefit in return

Results 3

- Should dose limits be continuously based on the concept of *acceptable risk*? Any alternatives?
 - How to get consensus on acceptable risk?

 - How to deal with potential exposure (risk to be exposed)?
 - Issue on the range of EPZ
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Results 3

- ❑ **Proactive communication strategy should be sought**
 - **One-way flow of information is not respected in the era of SNS**
 - **ICRP should come close to social issues (low-dose effect, activity in foodstuff, drinking water, commodity)**
 - **Speak what the public want to hear**
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Thanks

