Public Concern Regarding the Fukushima Accident

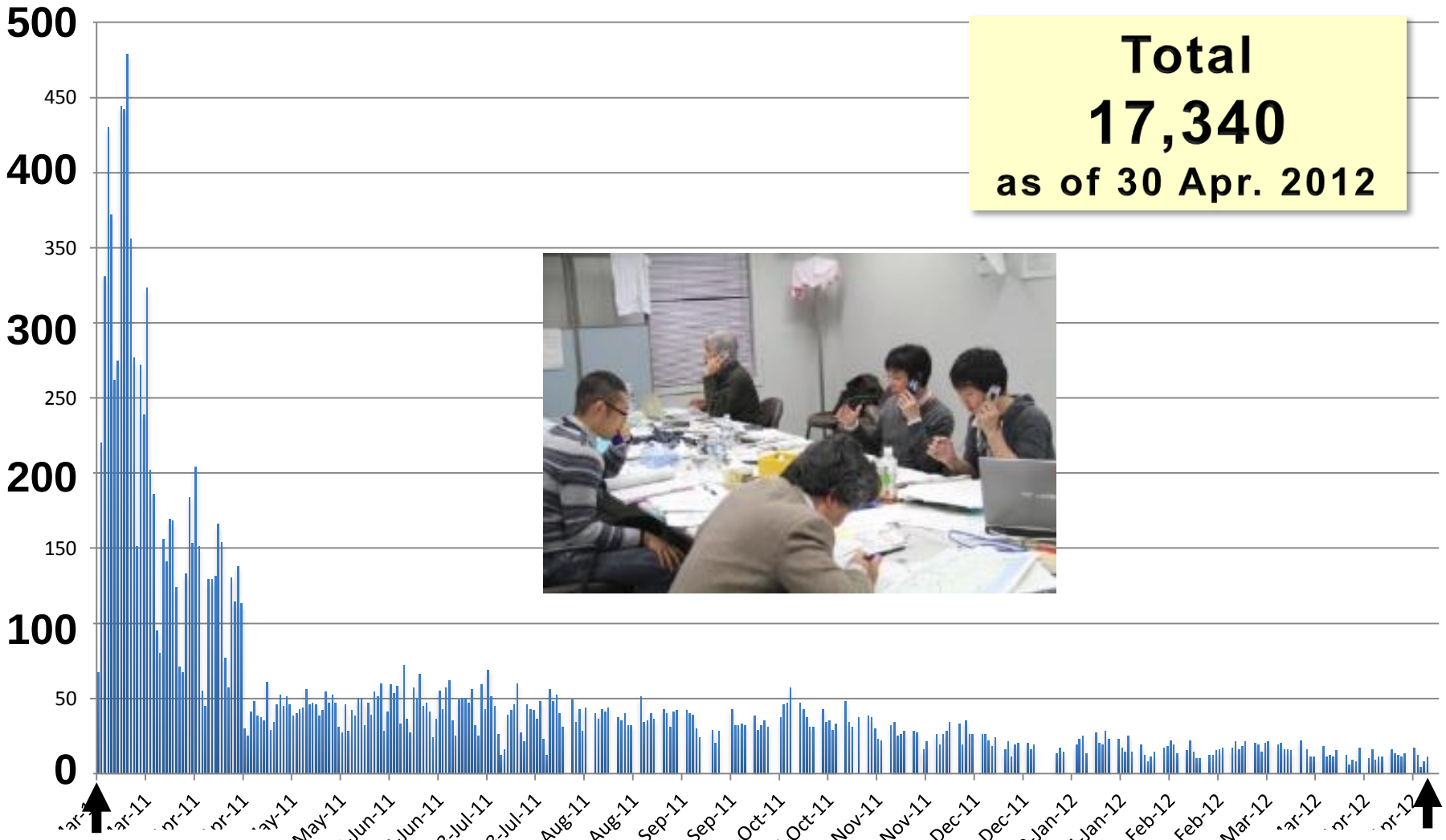
—Challenge to Radiation Protection Community

Kazuo Sakai

National Institute of Radiological Sciences, Japan

Trend of telephone consultation

(Number of calls)



Public Concern

Due to…

- Lack of Information on Radiation Effect
- Misunderstanding about RP Concepts

Lack of Information on Radiation Effects (1)

School girls in Fukushima are not able to have a baby in future.

Tissue and Effect	Threshold	
	Total dose received in a single brief exposure (Gy)	Annual dose rate if received yearly in highly fractionated or protracted exposures for many years (Gy y^{-1})
Testes Temporary sterility	0.15	0.4
Permanent sterility	3.5-6.0	2.0
Ovary Sterility	2.5-6.0	>0.2

Lack of Information on Radiation Effects (2)

I was told to terminate my pregnancy.

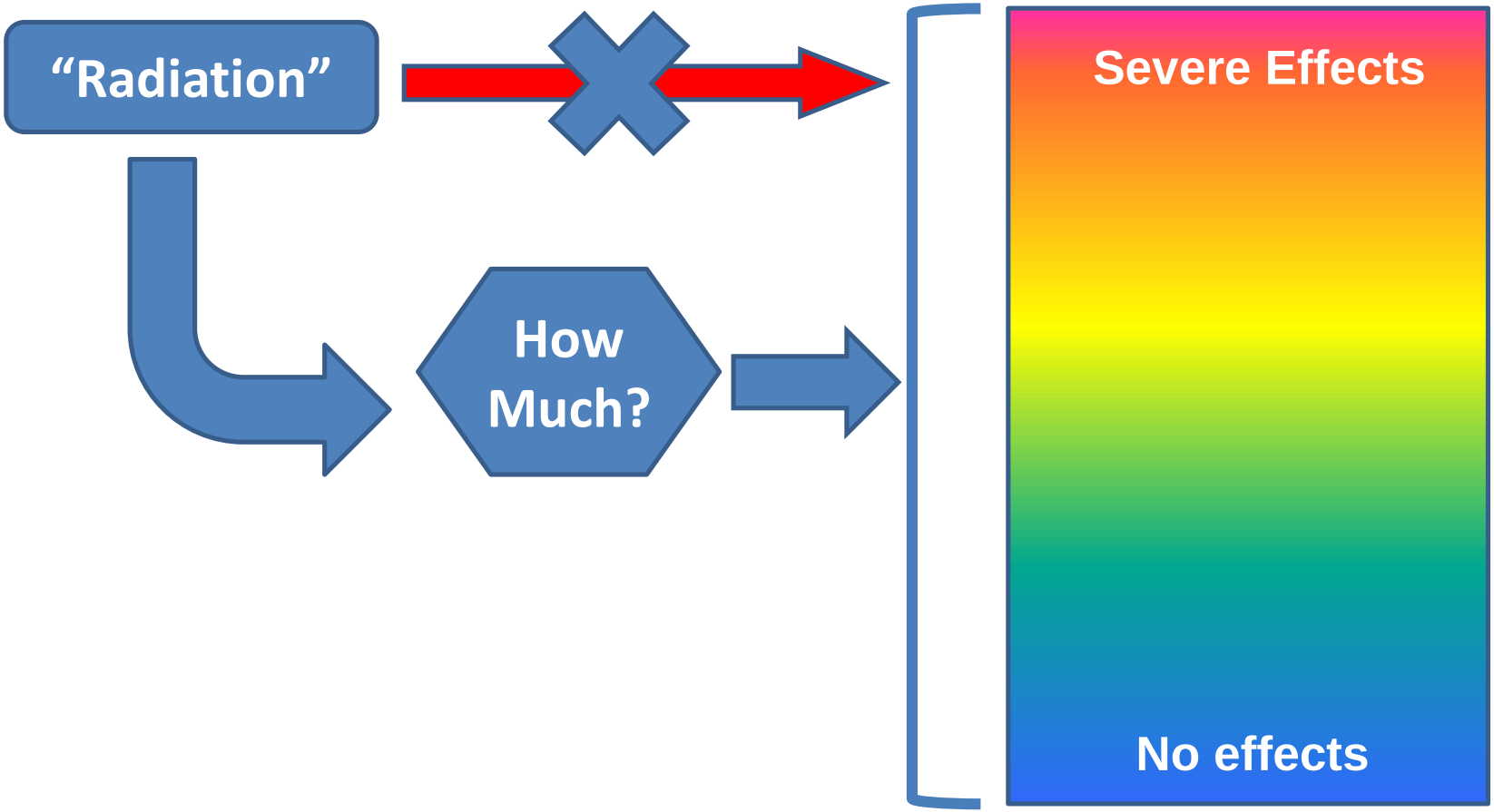
- Lack of knowledge is responsible for great anxiety and probably unnecessary termination of pregnancies.
- Termination of pregnancy at fetal doses of less than 100 mGy is **NOT** justified based upon radiation risk.

(Publication 84)

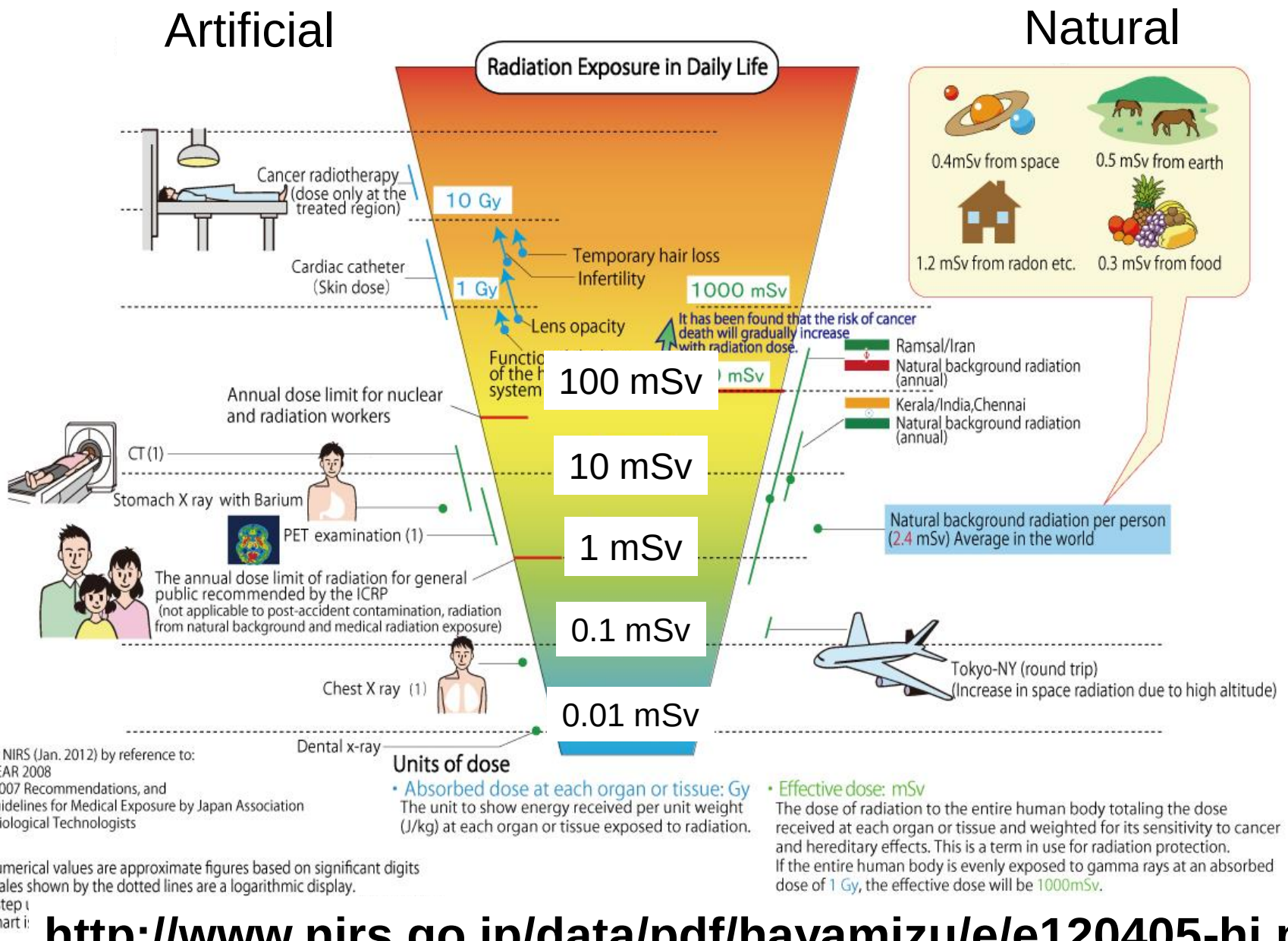
Perception of Radiation among General Public

Direct connection between “Radiation” and “Severe Effects, Cancer, Death”

Shift of Thinking: Need for the Concept of "Dose-Effect Relationship"



Radiation Exposure/Effects at a Glance



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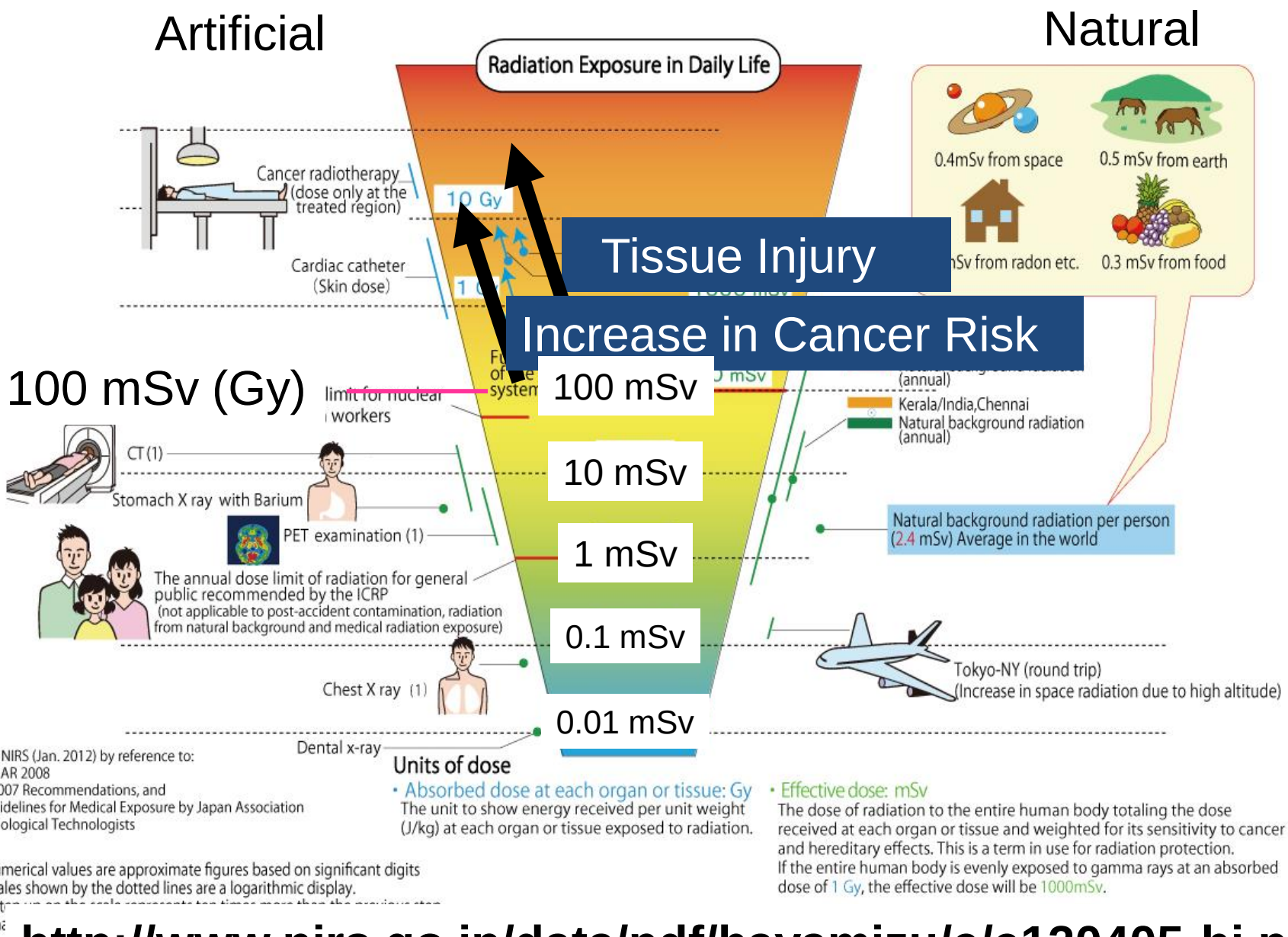

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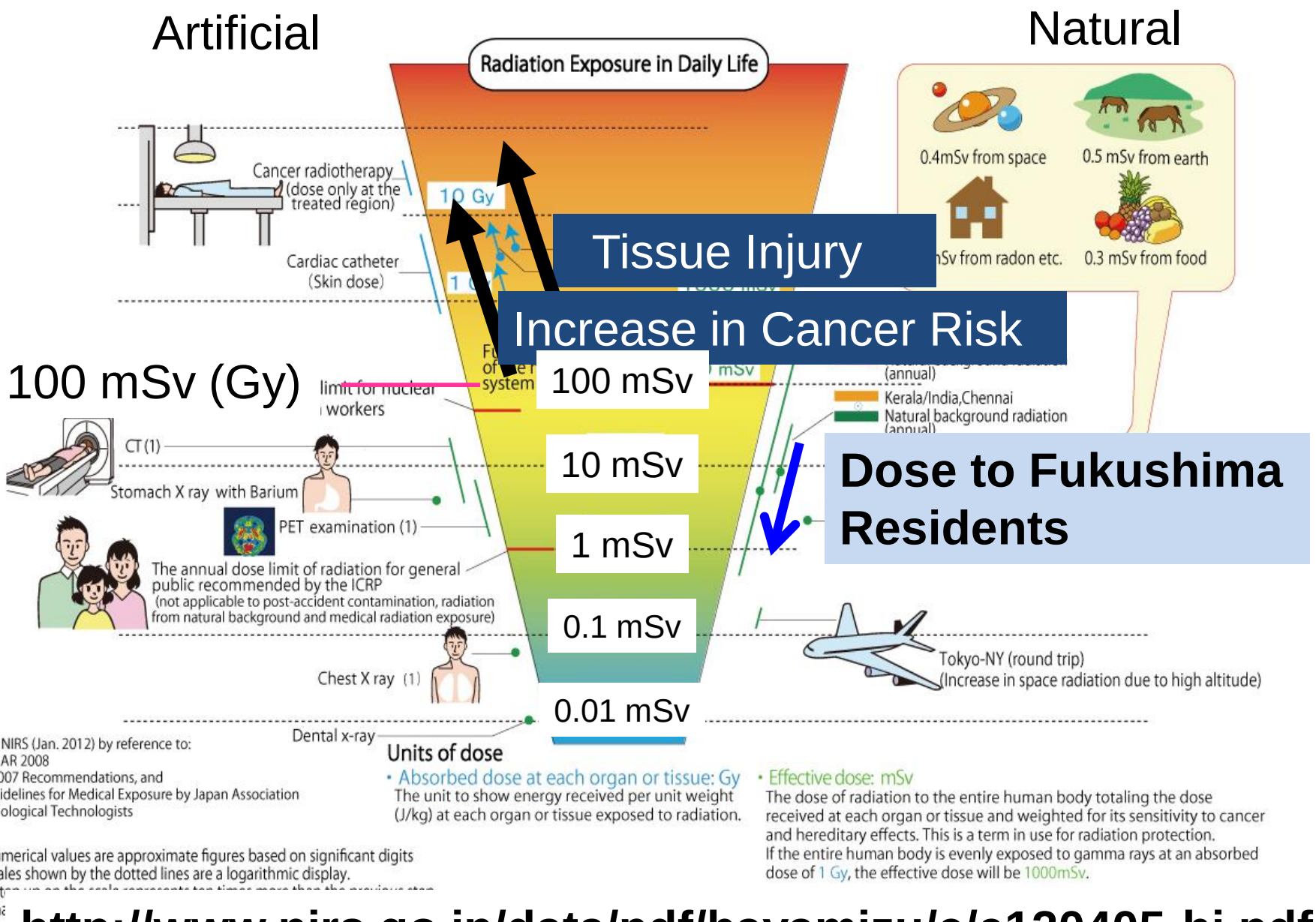

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Misunderstanding about RP Concepts (1)

- Any dose more than 1 mSv is dangerous.

… It must also be realised that neither dose and risk constraints nor reference levels represent a demarcation between ‘safe’ and ‘dangerous’ or reflect a step change in the associated health risk for individuals. (Paragraph 228, Publication 103)

Misunderstanding about RP Concepts (2)

- Tens of thousands people shall die due to radiation from the accident.

…the Commission emphasises that whilst the LNT model remains a scientifically plausible element in its practical system of radiological protection.…the Commission judges that it is not appropriate, for the purposes of public health planning, to calculate the hypothetical number of cases of cancer or heritable disease that might be associated with very small radiation doses received by large numbers of people over very long periods of time. (Paragraph 66, Publication 103)

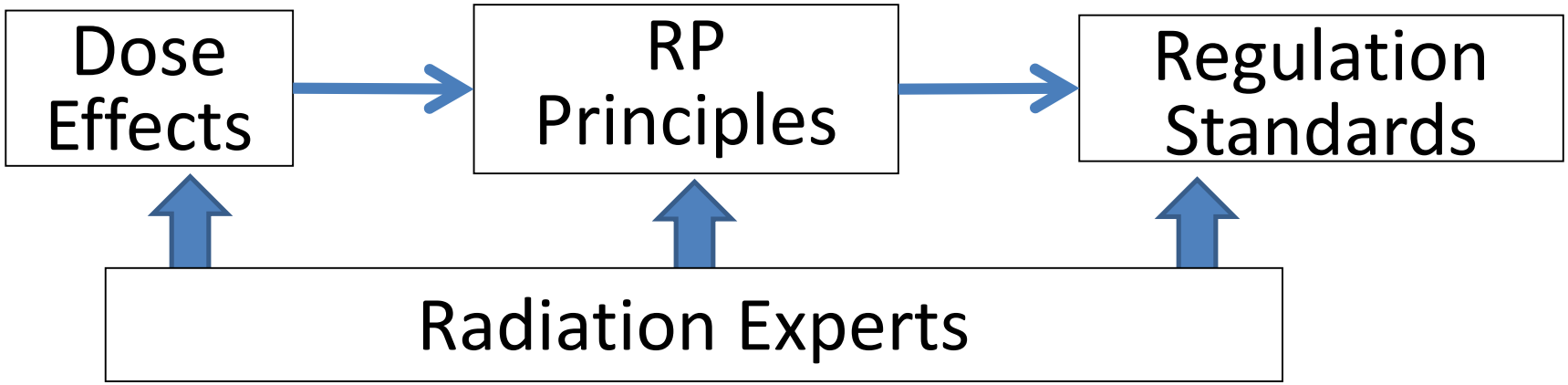
Conclusion

- Residents in Fukushima, who had not been aware of radiation effects nor radiological protection, have been affected and confused by lack of information on radiation effects and misunderstanding of concepts in radiological protection system.
- Radiation experts should disseminate;

  (i) precise information on effects of radiation,

  (ii) plain explanation on RP concepts.

Roles of Radiation Experts



Roles of Radiation Experts