Ethics of Radiological Protection in Public Communications - Is Telling the Truth the Answer?

First International Radiation Protection Association
North American Workshop
on the Ethics of Radiological Protection

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A Technical Presentation

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Ray Johnson, MS, PSE, PE, FHPS, CHP
Director, Radiation Safety Counseling Institute
16440 Emory Lane
Rockville, MD 20853
301-3770-8573
Ray Johnson, MS, PSE, PE, FHPS, CHP, is a 50 year career specialist in radiation safety. He currently directs the Radiation Safety Counseling Institute where he provides consulting, training, and counseling on issues involving radiation safety. He specializes in radiation instruments, nuclear gauges, industrial x-ray, NORM, and radiation risk communication. He has trained over 3,000 radiation safety officers. He is a past president of the Health Physics Society and the American Academy of Health Physics and has over 500 publications and presentations on radiation safety.

Radiation Safety Counseling Institute
16440 Emory Lane
Rockville, MD  20853
301-370-8573
ray@radiationcounseling.org
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Overview
- Have we been telling the truth about radiation?
- What is the TRUTH?
- Is lying the opposite of truth?
- Truth, beliefs, faith, ethics
- How we determine truth
- Possible answers to public communication

Did You Know?
- “You can save 15% in just 15 minutes”
- And the answer is?
  - “Everybody knows that”
- “Well, did you know? - - - - - - - - -?”
- “Radiation is not nearly as dangerous as most people believe it is!”
- “It is actually very difficult to seriously harm someone with radiation”
  - Is this true?
  - If so, “Why aren’t we telling people that?”

Is the Answer to Tell the Truth?
- Anecdote of HP at ACS meeting - 1985
- “So Ray, you are going to tell us the answers to risk communication”
  - “I do not pretend to have all the answers, I hope to share a few helpful insights”
- “Ray, the answer is simple, just tell people the truth”
- “I agree, however, MBTI shows that truth based on logical analysis is only favored by ½ the population”

How We Make Decisions
- Thinking - 50%
  - Logical
  - Analytical
  - Objective
  - Laws
  - Principles
  - Firmness
  - Justice
  - Criticize
  - Analysis
  - Impersonal
  - Cool
  - Truth
- Feeling - 50%
  - Personal
  - Empathic
  - Subjective
  - Circumstances
  - Values
  - Persuasion
  - Harmony
  - Appreciate
  - Sympathy
  - Personal
  - Caring
  - Goodness

My Courtroom Experience
- I used to believe I knew the truth until serving as an expert witness and observing courtroom proceedings
- Witnesses - “Swear to tell the truth, the whole truth, and nothing but the truth”
- Feedback from a Federal Judge
  - A trial is carefully orchestrated drama to persuade a judge or jury, truth is incidental

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Ethics in Public Communication - Is Telling the Truth the Answer

Have We Been Telling the Truth About Radiation?
- Yes or No?
- Is telling the truth working?
- Is public opinion of radiation any different today than 50 years ago?
- If telling the truth is NOT the answer,
  - Should we forego telling the truth?
  - What is the answer?

What is the Truth?
- We agree it is important to tell the truth
  - In accord with fact or reality
  - Fidelity to an original or to a standard or ideal
- What is the process for deciding how words, symbols, ideas, and beliefs may accepted as truth?

Bases for Truth
- Correspondence theory
  - Relation to actuality
- Coherence theory
  - Fit of elements within a whole system
- Constructivist theory
  - Truth from social processes, perceptions
- Consensus theory
  - Truth is what we agree upon
  - Basis of measurements and calibration

More Bases for Truth
- Pluralist theories
  - Having particular properties or coherence
- Truth in logic
  - Determined by patterns in reasoning
  - Scientific truth (often favored by HPs)
- Truth in mathematics
  - Provable within an axiomatic system
- Semantic theory of truth
  - "This sentence is true"
- Objective and subjective truth

Truth and Ethics
- Ethics - Moral principles that govern a person's or group's behavior.
- Rules of conduct recognized in respect to a particular class of human actions or a particular group, culture
- Synonyms: moral code, morals, morality, values, rights and wrongs, principles, ideals, standards (of behavior), value system, virtues, dictates of conscience

Ethics and Public Communication
- Are we ethical in our communications?
- Is there a right and wrong way to tell people about radiation risks?
- What is morally justified?
  - Do we have moral principles to follow?
- Is "telling the truth," the answer?
- Should we, "Just present the facts"?
- If so, "What are the 'true' facts"?
- How do we know what is true?
Ethics in Public Communication - Is Telling the Truth the Answer

Ethics and Public Communication
- Can we justify simplifying technical information to enhance understanding?
  - Do we have to be technically accurate?
- Which is more important?
  - Technical accuracy?
  - Compassion and understanding?
- What approach can we defend?
- What is professionally (ethically) acceptable?

Lying and Ethics
- No circumstances under which one can ethically lie – no matter the consequences
- Scriptures – “Thou shall not bear false witness”
- What is lying?
- Are we bound ethically – not to lie?
- What are consequences of lying?

False, Falsify, or Lie
- Is not telling the truth, the same as lying?
- True or false on an exam
- Omission or commission
- Is telling a half-truth, lying?
- Falsification
  - Great concern for RAM licensees

Types of Lying
- Bare or bold faced lie
  - Obviously not true
- Big lie
  - Attempts to trick
- Bluffing
  - Act of deception, in cards, sports
- Baloney
  - To convey an impression
- Butler
  - I have a call on another line

Types of Lying
- Contextual lie
  - State part of the truth, out of context
- Economical with the truth
  - Speaking carefully to avoid something
- Emergency lie
  - Strategic lie to minimize harm
- Exaggeration
  - Making something more meaningful than reality

Fabrication
- Statement made without verification
- Fib
  - No malicious intent
- Half-truth
  - Deceptive statement – partly true
- Haystack answer
  - Truth hidden in volume of false information
Types of Lying
- Honest lie
  - Not knowing information is a lie
- Jocose lie
  - A lie meant in jest
- Lie – to - children
  - The stork brought you
- Lying by omission
  - Leaving something out to foster a misconception

Types of Lying
- Lying in trade
  - Advertising untrue facts for marketing
- Minimization
  - Minimizing the facts to avoid something
- Misleading and dissembling
  - Statement to get someone to believe
- Noble lie
  - Statement made for the good of society

Types of Lying
- Perjury
  - False statements made under oath
- Polite lie
  - I have another commitment at that time
- View from nowhere
  - Journalism showing both parties equal
- Weasel word
  - Ambiguity for deniability
- White lie
  - Harmless lie for the greater good

Importance of Truth and Faith
- We have to believe (have faith) in something
- We need realistic expectations to live
- Truth is needed for survival,
  - For coping with the world
- Faith leads to an active life aligned with ideals and beliefs of what is true

Truth, Facts, Meaning
- "A fact is a synthesis of impressions"
  - Love and Mr. Lewisham, H. G. Wells, 1900
- How do we assess meaning and truth?
  - All information is first processed subconsciously by association with stored memories, experience, and beliefs (truths)

Two Systems for Processing Data
1. Conscious - Reason and rational analysis of facts
   - Favored by technical specialists
   - May lead to intelligent decisions, but very slow and takes effort
   - For radiation safety, we often do not have all the facts, time to gather facts, or knowledge to understand them
2. Subconscious - Emotion, instinct, and gut reactions, very fast
   - Does not need all the facts
   - Origin of most decisions, especially for safety

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Role of Our Conscious Mind < 1%
- Slow, deliberate, rational, thinks, reasons, and makes decisions and choices based on sensory input
- Source of knowing and awareness
- Serves as the captain of our ship, the giver of orders
- Processes information to make decisions
- Can only deal with one thing at a time
  - Example

Subconscious Mind > 99.999%
- The seat of our emotions / creativity.
- Takes orders from the conscious mind without judgments
- A Very Fast, super computer
- Functions 24/7 operating the machine we call our body
- Regulates our heart, our breathing, digestion of food, healing of cells, etc
- Handles thousands of inputs simultaneously for our health and protection
- Programmed to fear / react instantly to danger

Fears of Radiation are Involuntary
- Instinctive fears of heights, snakes, spiders, closed spaces, submersion, public speaking,
- Repeated message "Deadly Radiation"
  - Transferred to subconscious mind for protection – basis of meaning
  - Radiation is now an instinctive source of fear
  - Fear of radiation – not a conscious choice
- Subconscious reacts automatically to radiation without consulting the conscious mind
- Decision to “RUN” is now automatic

How We Process Data
- We process, sort, compare, categorize, and analyze information, in relation to -
  - Immediate circumstances - radiation
  - Experiences – what have we heard?
  - Life factors, such as health, wealth, traditions, and lifestyles
  - Loss aversion – need to be safe
With all these inputs we come up with instant judgments
- Quick judgments are crucial to survival
- Based on limited information
- May not be best in the long term
- Is running away the best answer?

Instant Subconscious Processing
- Influences our conscious view of the world in fundamental ways
- How we view ourselves and others
- The meanings (truth) we attach to everyday events in our lives
- Our ability to make quick judgments
- The actions we take in response to instinctive experience of the world
Ethics in Public Communication - Is Telling the Truth the Answer

Ethical Answers to Public Communication?
- Help people find the TRUTH
- Let people know it's OK to be afraid
- Show that you care
- Hear and reflect feelings
- Be a resource to help people to find their own answers
- Provide guidance on steps from Cause to Effect

Establish Rapport
- Do not make people wrong for their fears
  - It's OK to be afraid.
- Use "Active Listening" to show that you care by hearing and responding to feelings
  - "I don't want anything to do with radiation!"
  - Active Listening Response,
    "Radiation is scary isn't it"
- Invite workers to help answer the question –
  - Is this source of radiation safe?
- Show them steps from Cause to Effect
- Workers have buy-in to their own answers

Help People Find Answers
- Show – and – tell
- Demonstration of radioactive antiques
- Compare antique readings with sources of concern
- Let concerned person do measurements
  - Compare readings from antiques with readings for radiation source of concern
- Explain instrument readings

Steps from “Cause to Effect”
1. What are properties of radiation
   - α, β, γ, x-ray? - Form and quantity?
2. Where is it located - Inverse square law?
3. How is it contained - Shielding?
4. How will it move in the environment?
5. What are the exposure conditions – mR/hr?
6. What is the duration of the exposure – hr?
7. How much energy is deposited in our body - mrem?
8. What are the health risks at
   - 1 death / 1,000 person - rem

What have we Learned Today?
- Is telling the truth – the answer?
- Have we been telling the truth about radiation?
- What is the TRUTH?
- Is lying the opposite of truth?
- Truth, beliefs, faith, ethics, How we process data
- Possible answers to public communication

References
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Questions?

Ray@radiationcounseling.org