

The Spectrum of Ethics in Medical Physics;
**A focus on the ethical principles associated
with Clinical Practice in Medical Physics**

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Aim

Empower Medical Physicist with improved ethical skills, moral reasoning and confidence so they adequately fulfil their ethical obligations.



Source: <https://www.inc.com/minda-zetlin/think-youre-ethical-7-questions-to-ask.html>

Medical Physicist's Duties

Professional

- Professional interest

Clinical

- Provide competent and trustworthy service
 - Purchase, acceptance testing, and approval (quality control and safety) of the use of the equipment
 - Diagnostics – optimization, dosimetry and quality issues
 - Therapy – treatment planning and dosimetry
 - Participate in research – sharing available data of patients or/and allowing the collection of patient data.

Medical Physicist's Duties

Research

- Provide generalizable knowledge for the improvement of human lives

Educational

- Train competent persons with adequate knowledge and skills

Medical Physicist's Spectrum of Ethics

- 🌀 Professional
 - Professional ethics
- 🌀 Clinical
 - Clinical / Medical ethics
- 🌀 Research
 - Research ethics
- 🌀 Educational
 - Educational ethics

Why Ethics

- 🌀 Make decisions regarding others in under different circumstances and we need to get it right as much as possible.
- 🌀 Moral obligation
 - When a person posses or is attributed certain powers and capacities and it is a fact that the person has, the behaviour of the person which is seen to and arises from the exercise of these powers and capacities which should be in the right way, make the person morally responsible.
- 🌀 Moral relevance
 - That which gives reason by which a distinction of right or wrong is made.

Morality, Ethics

- 🌀 Morality – what is generally considered as right or wrong (value, institution)
- 🌀 Ethics – a branch of philosophy that develops and studies
 - **Concepts**, **Theories**, Principles, **Rules**, **Codes** and Reasons for defending the nature of morals and moral choices.

Norms

- 🌀 Normative ethics – which general norm or moral criteria (**values of the act or inherent rightness**) by which to accept and for the guidance and evaluation of **what human conduct should** be and why
 - Common morality; Particular morality
 - **Bioethics**
 - Research ethics; Environmental ethics; Public Health ethics; **Clinical / Medical ethics**

Principles of Clinical Ethics

Beneficence, Nonmaleficence, Respect For Autonomy, Justice.

Distributive Justice - principle

- 🌀 The moral obligation of a clinician to fairly, and equitably distribute benefits, risks, cost and resources of health and healthcare
- 🌀 To each person
 - **1. an equal share**
 - **2. according to need**
 - **A) favour the worse-off**
 - **B) recuse from death**
 - 3. according to effort
 - 4. according to contribution
 - 5. according to merit.

Justice - obligation

- 🌀 Form a coherent and workable solution
 - By choosing among these principles.
 - Balancing your choices.
 - Refining both choosing and balancing.

Nonmaleficence

- 🌀 The moral obligation of a clinician not to cause a patient harm.
 - 1. do not kill
 - **2. do not cause pain or suffering**
 - **3. do not incapacitate**
 - 4. do not cause offense
 - **5. do not deprive others of the goods of life**
- 🌀 Negative obligation with difficult exceptions or choice of options.

Beneficence – principle

- 🌀 The moral obligation of a clinician to act for the benefit and welfare (important and legitimate interests) of patients and society.
 - 1. Protect and defend the rights of others.
 - **2. Prevent harm from occurring to others.**
 - **3. Remove conditions that will cause harm.**
 - 4. Help persons with disabilities.
 - 5. Rescue persons in danger.

Beneficence – obligation

Positive obligation

- **provide benefits**
- **prevent harm**
- remove harm

Utility obligation

- **weigh and balance benefits, versus risks and/or costs to maximize utility (outcome)**

Autonomy – principle

- 🌀 The moral obligation of a clinician to respect (**refrain from controlling influences**) the **intentional** and **competent/rational** (based on understanding and the absence of limiting physical or mental disorder) decisions and moral choices of adults humans
 - 1. Tell the truth.
 - 2. **Respect the privacy of others.**
 - 3. **Protect confidential information.**
 - 4. Obtain informed consent for interventions with patients.

Autonomy - obligation

- 🌀 Fulfil the right to know, and option to forgo knowing of the patient.
- 🌀 Limit access to the person of the patient.
- 🌀 **Do not disclosure to others without the patient's authorization (exception).**
- 🌀 Assess extent of competency.
- 🌀 Probe and ensure understanding of information.
- 🌀 **Provide full disclosure to patient of what is yours to disclose.**
- 🌀 Probe and ensure volunteers & indication of consent.

Competing Moral Principles

Paternalism – Who is to take the decision

Rationing - What to, How to & to Whom to provide healthcare

Conflict of Interest – Who interest should be paramount

Paternalism – Conflict of Principle

Conflicts Between Beneficence/Nonmaleficence and Respect for Autonomy

- Patients' rights to make independent judgments (preferences) about their medical fate.

versus

- Clinicians attributed certain powers and capacities (superior training, knowledge, and insight) to take medical decisions to the benefit and welfare of patients.

The Judgments about patients' needs for treatment, information, and consultation.

- force or coercion, or deception, lying, manipulation of or nondisclosure of information.

Paternalism – Way forward

- 🌀 Who knows or what is the best interest of patients?
- 🌀 Beneficence sets the goal while autonomy set the moral limits.
- 🌀 Beneficence sometimes justifiably overrides autonomous actions as well as nonautonomous actions.
- 🌀 Model of parental paternalism.
- 🌀 Surrogate decision making.

Paternalism – Justification

- ⌘ Prevented harms or benefits provided outweigh the loss of independence and invasion.
- ⌘ Patients condition seriously limits his or her ability to make an autonomous (Capacity/Competent/Rational) choice.
- ⌘ Action is universally justified under relevantly similar circumstances, and;
- ⌘ The patient has consented, will consent, or would, if rational, consent to those actions on his or her behalf.

Rationing – Balancing of Principles

What is it?

- The **controlled** allocation or **denial** of potentially beneficial health care or health resources
- Balancing being efficient (do the most good) and being fair

Why ration

- Scarcity (non optimal increase in or not full availability)
- Meeting multiple objectives

It ubiquitous and inevitable

- Macro-allocation – public health decisions
- **Micro-allocation – bedside decisions**

Health Care Rationing

🌀 **What** is to be provided, **How** to provide, to **Whom** it should be provided.

- Value of the condition
- How well-being or quality of life is affected
- Differences in individual patients
- Health state

Rationing

- 🌀 Fair processes for allocation:
 - Oversight by a legitimate authority
 - Transparent decision making
 - Reasoning with available information
 - Application of principles acceptable as relevant
 - Meaningful stakeholder engagement
 - Meaningful procedures for appealing and revising decisions

Cases

Case 1

- Imagine that you are faced with a situation at your centre in which you can only conduct only one more treatment planning for either Kofi or Abena. Kofi is 20 years old, and Abena is 70 years old. Whoever you conduct the treatment planning for will receive treatment and be saved from death due to their condition and live for another ten years in full health and the other's condition will become worse.
- All else equal, what will you do?

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- 🌀 You were later informed that Abena came in a few minutes before Kofi.
 - 🌀 All else equal, what will you do?

Case 2

- 🌀 A fifty-year-old man has entered a hospital with a stroke that has paralyzed his right side and caused him to need assists to feed and requires medical imaging of his brain and his mental status is clouded. You disagree with the attending physician's choice of imaging modality and the stated parameters to be use because you it will increase the dose to the patient's brain, but will result in a very good image.
- 🌀 What ethical principles are in conflict?
- 🌀 What is the ethical thing to do?

Case 2

- 🌀 Additionally, you noticed that your is not willing to inform the man of the options and risks of the imaging modalities knowing that his decisional capacity is determinable only by his “yes” and “no,” responses to feeding needs, which have been found to be inconsistent.
- 🌀 All else equal, is it ethical permissible to agree or disagree with her?
- 🌀 What is the ethical thing to do?

Case 3

- 🌀 Before you are able to conduct the routine quality control on your equipment, a patient is brought in who needs to be imaged to identify the location of an object for removal by a surgical procedure.
- 🌀 All else equal, what will you do?

Case 3

- 🌀 You get to know that the object is lethal and needs to be removed by immediate surgery. Additionally, you have been reminded by your colleague that the equipment had not performed well at the last quality control, giving higher doses than it should.
- 🌀 All else equal, what will you do?

Case 4

- 🌀 Due to limited number of Medical Physics working in the country you end up working at two facilities with schedules that do not overlap. On this day, while you are closing from one facility you are informed that there are three patients for whom you are needed to prepare a treatment plan so that they are treated to avert the worsen of their condition. Then also you are called by the second facility that one patient is waiting for you to prepare a treatment plan also for treatment to avert the worsen of her condition.
- 🌀 All else equal, what will you do?

Case 4

- 🌀 You are then informed that the three patients are all over 80 years old with late-stage invasive cancers, while the one patient is a mid-age economically active family woman with early-stage cervical cancer.
- 🌀 All else equal, what will you do?

Thank You

BE ETHICAL IN YOUR CONDUCT