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Ethical Issues in Radiation Oncology During a Pandemic
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Ethical Issues in Radiation Oncology During a Pandemic

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The longstanding general ethical principles followed in the United States are based largely on concepts elucidated by Immanuel Kant and emphasize individual autonomy. Beauchamp and Childress (1) have put forth commonly-used principles for approaching ethical questions including:

- 1) Respect for autonomy- the patient's right to choose or refuse treatment, underpinning the concept of informed consent.
- 2) Beneficence- practitioners should act in the patient's best interest.
- 3) Non-maleficence- do no harm.
- 4) Justice- this concerns the distribution of scarce health resources and the decision of who is offered what treatment. This might also be referred to as "social justice" because it goes beyond dealing with the individual patient.

An alternative *utilitarian* ethical formulation (as put forth by Jeremy Bentham and subsequently by John Stuart Mill) suggests that decisions should be made in order to produce benefit to the greatest number of people (2). The benefit can be described in terms of "well-being" or sometimes "utility", but reflects some parameter of meaning to the potentially affected individuals, with all affected individuals being viewed equally.

The utilitarian approach is *not* the approach that has been taken within the US health care; i.e. with its emphasis on private payers and the lack of responsibility of the public at large for the health care of non-insured individuals. There has generally been little regard for distribution of resources in the US because, for many segments of the population (the insured) resources have been available for most "standard" clinical care. It is, however, the luxury of a rich nation with the individual at the center of health care decisions.

In certain situations, however, the situation changes. In emergencies, triage is the norm and decisions aim to produce the most benefit for the most people and for the broader society. Our US radiation oncology community fortunately rarely faces such emergency situations, but the present COVID-19 pandemic is forcing us to address serious ethical issues.

Some of the ethical issues related to COVID-19 have recently been addressed by others. Schrag et al (3) suggest that care plans can be *safely modified* for care that is not time sensitive, can be delivered remotely (e.g. follow-up visits) or where management omission/delay would have minimal patient impact. Conversely, care plan modifications/delays *should be avoided* in situations where this could have a meaningful impact on patient survival duration, quality of life, or cure rate. Of course, any action must be taken with consideration of the resources that are available (both medical and patient) in each specific environment.

Representing the American Society of Clinical Oncology (ASCO) Ethics Committee, Marron et al (4) raise principles including 1) maximizing overall health benefits from the available resources, 2) decisions regarding allocation of scarce resources should *not* be made by the treating physician, 3) coordination with their institutions in the use of scarce resources 4) decisions about allocating scarce resources (e.g. ventilators) should be made early in the pandemic and that a cancer diagnosis should not alone prevent patient access to those resources, 5) policies

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4 should be implemented consistently and transparently (to both health care workers and
5 patients).
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8 These issues have also been discussed by groups such as the The Hastings Center's *Ethical*
9 *Framework for Health Care Institutions & Guidelines for Institutional Ethics Services Responding*
10 *to the Coronavirus Pandemic* (5). This document emphasizes the health care leader's duty to 1)
11 plan for ethical challenges during an emergency, 2) safeguard workers and vulnerable
12 populations and 3) guide for contingency levels of care and crisis standards of care.
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16 I herein aim to consider how these concepts/recommendations should be applied by a
17 practicing radiation oncologist. We must acknowledge that our mindset needs to change from
18 the usual Kantian approach where the patient sitting in front of you (physically or virtually), is
19 paramount, to the utilitarian approach where the larger societal issues become predominant.
20 It also means that a patient's wishes regarding treatment should not always be followed. We
21 need to consider not just the impact of radiation therapy on that patient, but also the impact
22 on other patients, health care workers, and society at large.
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25 26 SHOULD A PATIENT BE TREATED? 27

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29 There are some situations in which standard therapy should not be given, or at least
30 substantially deferred. A simple example is a patient with low risk prostate cancer who is
31 anxious about a delay in treatment. It is appropriate to tell the patient that he *cannot* receive
32 treatment now. There clearly is no urgency in therapy, the patient is being put at increased risk
33 of exposure to SARS-CoV-2 by coming to the hospital over multiple days, with resulting
34 morbidity and mortality risks. In addition, and as important, having additional patients in the
35 department increases the risk of infecting other patients and their family members, and of
36 infecting health care personnel. Further, if the patient is being scheduled for multi-week
37 therapy, it is possible that the patient would not be able to come for all the treatments because
38 of subsequent societal or personal reasons secondary to the virus, and that would endanger his
39 long-term prospects for cure. Not treating this patient for an extended period of time is likely
40 appropriate, despite the wishes of the patient. This is an approach that we would normally not
41 condone as we would usually try to respect the patient's autonomy, as described by Kant, and
42 his right to make final decisions as to his care.
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48 SHOULD A PATIENT RECEIVE LONG COURSE RADIATION THERAPY? 49

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51 Another issue relates to duration of treatment. For several diseases there are shorter
52 therapeutic courses (e.g. mild to marked hypofractionation) with outcomes very similar to
53 longer courses. It is appropriate in pandemic situations to refuse to deliver long course
54 radiation therapy in these situations (e.g. preoperative therapy of rectal cancer, post-operative
55 therapy of breast cancer, primary treatment of glioblastoma, prostate cancer, or palliative
56 treatment of bone metastases). There may be situations, especially in palliation, where data for
57 a shorter course is not strong, but where shorter course treatments might still be appropriate.
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4 SHOULD SEQUENCING OF TREATMENT BE ALTERED?
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7 Much cancer treatment is multi-modality, combining radiation therapy with surgery,
8 chemotherapy, and/or immunotherapy, but it may be appropriate to alter standard sequencing
9 in some situations. We have a number of standardized regimens, some of which are based on
10 hard data, but some are based on institutional conventions. Since radiation therapy entails
11 multiple daily clinic visits, it might, even in curative situations, be appropriate to alter the
12 sequencing of treatment and delay radiation therapy visits till the pandemic subsides.
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16 At times it might work the other way. Radiation therapy is not as immunosuppressive as
17 chemotherapy, generally has a low risk of producing side effects leading to hospitalization, and
18 does not entail a prolonged hospitalization. Therefore, using radiation therapy *first* might be
19 more appropriate in selected situations.
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22 HOW TO MANAGE A PATIENT WHO DEVELOPS COVID-19 DURING THERAPY
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25 There are no clear answers as to how to deal with patients who develop COVID-19 during a
26 course of therapy. It may be appropriate to modify therapy to account for the infection as for
27 any severe intercurrent disease. If significant lung tissue is being irradiated, terminating therapy
28 (at least temporarily), might be essential for the patient's benefit to reduce the risk of
29 radiation-associated pulmonary injury. If treatment is continued, it is obvious that appropriate
30 precautions must be taken to protect staff and other patients. It would be appropriate to treat
31 the patient as the last patient(s) of the day followed by thorough room cleaning.
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35 HOW SHOULD DECISIONS BE MADE
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38 Decisions related to these issues are often subjective, and to the extent possible they should
39 *not* be made *ad hoc*. Rather, one should strive to have institutional (e.g. cancer hospital-based)
40 and/or departmental policies that can be applied to most situations. However, all clinical
41 scenarios cannot be predicted and analyzed ahead of time, so there needs to be flexibility. In
42 addition, there will be substantial gray areas regarding patient-specific decisions.
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45 If possible, for ambiguous situations where standard policies may not be appropriate, it is
46 advisable to obtain advice from other individuals in the department or the hospital. There is a
47 risk that a physician may try to do something "special" for his/her patient, and this may not be
48 in the overall societal, nor patient's, best interest.
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51 In a pandemic we may need to switch from an emphasis on the respect for patient's autonomy
52 (the first of the principles elucidated by Beauchamp and Childress) to an emphasis on social
53 justice (the fourth principle). But it is critically important that we follow Kant's advice to
54 respect the patient's autonomy. The patient needs to know what is being done and for what
55 reasons. If we are deviating from long-standing norms, this needs to be fully discussed with the
56 patient so that the patient is fully informed. Kant emphasized the importance of the categorical
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imperative, "Act only according to the maxim whereby you can, at the same time, will that it should become a universal law". This "golden rule" should still hold sway.

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