

## AMA CODE SAYS

### AMA Code of Medical Ethics' Opinions Related to Ethics of Life-Sustaining Technologies

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#### Abstract

Advances in science and technology have far-reaching potential for implementation in health care and must be considered from an ethics perspective. Physicians conducting research on such technologies must consider their duties to subjects and patients. The *AMA Code of Medical Ethics* offers guidance on research conduct and best practices for using innovation patents.

#### Life-Sustaining Technologies

As technological advances are made, the implications of their implementation in health care become increasingly complex, raising new ethical<sup>1</sup> and regulatory<sup>2</sup> concerns while complicating old issues, such as risk of confidentiality breaches.<sup>3</sup> While conversations about these topics tend to revolve around patient care,<sup>4</sup> advanced medical devices,<sup>5</sup> and genetic engineering,<sup>6</sup> some have questioned the ethical implications of novel technologies, such as genetic engineering techniques, designed to significantly prolong life<sup>7</sup> or to extend it indefinitely.<sup>8</sup> The American Medical Association (AMA) *Code of Medical Ethics* sets forth basic guidelines for how physicians can best conduct research on life-sustaining technologies to promote the advancement of medicine while protecting patient-physician relationships and improving outcomes.

#### Innovation and Research

The emergence of new technologies suggests the importance of clear guidelines and policies for researching, selling, and using such technologies.<sup>9</sup> The *AMA Code of Medical Ethics* offers guidance on how physician researchers can conduct ethical clinical research with the goal of advancing medical knowledge and expanding treatment options. Opinion 1.2.11, "Ethically Sound Innovation in Medical Practice,"<sup>10</sup> discusses how physician-researchers can assist in furthering innovation as individuals within a larger context. This opinion calls upon physician researchers to be aware of the costs, risks, and driving factors associated with the development of new technologies. Opinion 7.1.1, "Physician Involvement in Research,"<sup>11</sup> expands on this guidance, specifically outlining duties of physicians related to expertise, patient safety and well-being, research protocol, and quality standards when participating in research. Specifically, physicians should (a) restrict themselves to conducting research in their area of expertise, (b) ensure that proper [informed consent](#) has been obtained and that research protocols are scientifically

and ethically sound, (c) treat research subjects with the same respect as their patients (d), and (e) adhere to both scientific and ethical standards in research, including monitoring and [minimizing conflicts of interest](#).

Physicians' responsibilities in sharing the results of studies with the community are further explored in Opinion 7.2.1, "Principles for Disseminating Research Results."<sup>12</sup> This guidance focuses on best practices for public disclosure of research findings, advocating for the timely, transparent release of well-designed and peer-reviewed study results. Opinion 7.2.3, "Patents and Dissemination of Research Products,"<sup>13</sup> discusses a similar topic, examining more closely best practices for using [innovation patents](#) to protect the health and well-being of patients. Specifically, Opinion 7.2.3 calls for physicians not to use patents "to limit the availability of medical innovations" and, furthermore, to use such patents to "encourage the development of better medical technology." Finally, Opinion 7.3.9, "Commercial Use of Human Biological Materials,"<sup>14</sup> offers guidance to physicians whose research on new technologies and treatments<sup>15</sup> involves human biological materials<sup>16</sup> insofar as it addresses issues relating to protection of tissue donors. This opinion can be helpful in discussions of emerging technologies that promise to transform organ transplantation medicine,<sup>17</sup> among other life-prolonging treatments.

### **Health Care and Patient-Physician Relationships**

Health care professionals must consider how emerging and existing life-extending technologies might be integrated into patient care in such a way that their use does not negatively influence patient-physician relationships. The *AMA Code of Medical Ethics* Opinion 1.1.1, "Patient-Physician Relationships,"<sup>18</sup> describes the ethical responsibility of a physician to "use sound medical judgment on patients' behalf, and to advocate for their patients' welfare." Furthermore, Opinion 1.1.3, "Patient Rights,"<sup>19</sup> discusses the "mutually respectful alliance" between patients and physicians and emphasizes patients' fundamental right to collaborative, informed decision-making, laid out in Opinion 2.1.1, "Informed Consent."<sup>20</sup> These opinions call on physicians to share all treatment options with patients and, if patients wish, to discuss these options with them.

Physicians recruiting subjects for a clinical trial or helping a patient decide whether to pursue enrollment in a clinical trial should be guided by these opinions and Opinion 5.5, "Medically Ineffective Interventions."<sup>21</sup> Opinion 5.5 elaborates on the duty of physicians to support patients' informed decisions when appropriate, stating that they should:

only recommend and provide interventions that are medically appropriate—i.e., scientifically grounded—and that reflect the physician's considered medical judgment about the risks and likely benefits of available options in light of the patient's goals for care. Physicians are not required to offer or to provide interventions that, in their best medical judgment, cannot reasonably be expected to yield the intended clinical benefit or achieve agreed-on goals for care. Respecting patient autonomy does not mean that patients should receive specific interventions simply because they (or their surrogates) request them.<sup>21</sup>

Furthermore, Opinion 5.5 discusses policies on futile care, reminding physicians that “the meaning of the term ‘futile’ depends on the values and goals of a particular patient in specific clinical circumstances.”<sup>21</sup>

### **AMA Code Guidance in Context**

Ethical analyses often lag behind technological development. The medical use of some developing technologies, while scientifically feasible, has ethical implications that might not be immediately apparent.<sup>22</sup> Increasingly, as technology promises to lengthen patients’ lives, questions arise about the ethical line between extending life and prolonging death.<sup>23-26</sup> New and expanded treatment options could further blur this line and, as Haider Warraich notes,<sup>27</sup> amplify the need for advance directives (see Opinion 5.2, “Advance Directives”<sup>28</sup>) to help support patient autonomy. Opinion 11.1.2, “Physician Stewardship of Health Care Resources,”<sup>29</sup> examines how the use of novel, expensive treatments in achieving certain outcomes for individual patients might best be balanced against the obligation to promote public health and access to care.

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