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THE CODE SAYS

The AMA *Code of Medical Ethics*' Opinions Related to Iatrogenesis in Pediatrics

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It is well-established that iatrogenesis, particularly due to errors, is associated with increased patient morbidity and mortality [1, 2]. Although any patient can experience an iatrogenic outcome, pediatric patients are the most vulnerable to life-threatening complications [3]. The *Code of Medical Ethics* does not have any opinions that address iatrogenesis in pediatrics specifically, but it does offer guidance on pediatric decision making, preventing error and harm, and disclosing errors.

Pediatric Decision Making

Opinion 2.2.1, "Pediatric Decision Making" [4], recognizes the complexity of how decisions are made for pediatric patients. Because minor patients (with some exceptions) are not legally permitted to make health care decisions on their own [5], physicians must work with a child's parents or guardians, whose consent is required, to make decisions. Both physicians and parents or guardians have fiduciary duties to promote a child's health-related interests, but the opinion recognizes that the two parties' duties can conflict.

> Decisions for pediatric patients should be based on the child's best interest, which is determined by weighing many factors, including effectiveness of appropriate medical therapies and the needs and interests of the patient and the family as the source of support and care for the patient. When there is legitimate inability to reach consensus about what is in the best interest of the child, the wishes of the parents/guardian should generally receive preference [6].

Although minor patients are not fully autonomous in making medical decisions, physicians still should promote the child's developing autonomy and engage them in decision making at a developmentally appropriate level. Opinion 2.2.2, "Confidential Health Care for Minors" [7], notes that a minor's decision-making capacity depends on factors including, but not limited to, chronological age, emotional maturity, and medical experience. The opinion also calls on physicians to protect the confidentiality of minor patients except when doing so would violate the law, threaten the patient's life or health, or cause serious harm to others.

Preventing Error and Harm

Opinion 1.1.6, "Quality" [8], which explains that physicians are obligated to ensure that the care their patients receive is safe, effective, patient centered, timely, efficient, and equitable, is particularly relevant for pediatric patients. Children—especially neonates in the NICU—are at greater risk of potential adverse drug events than are adult patients [9]. While it's important to note that not all adverse events are the result of errors, *Code* guidance on preventing medical errors can also be applied to adverse events; Opinion 8.6, "Promoting Patient Safety," states that it is important that physicians "play a central role in identifying, reducing, and preventing medical errors" [10]. Examples of opinions in the *Code* that address the prevention of medical errors include Opinion 8.11, "Health Promotion and Preventive Care" [11], which explains that physicians should "keep current with preventive care guidelines … and ensure that the interventions they recommend are well supported by the best available evidence," and Opinion 1.1.6, "Quality," which states that physicians should commit to "develop, implement, and disseminate appropriate, well-defined quality and performance improvement measures in their daily practice" [12]. In addition to preventing error, Opinion 1.2.3, "Consultation, Referral and Second Opinions" [13], suggests that physicians consult other physicians for advice or refer patients to other professionals to enhance quality of care.

Disclosure

Although Opinion 8.6 explains that physicians are obligated to inform patients about medical errors [10], it does not explicitly comment on the responsibilities of physicians when minor patients are harmed. However, when this opinion is taken in conjunction with physicians' obligation generally to give preference to the wishes of the parents or guardian of minor patients when there is disagreement about the child's best interest [4], it can be inferred that physicians should at least disclose the error to the parents or guardian. Importantly, the American Academy of Pediatrics (AAP) has not established guidelines about whether to include children in these discussions [14, 15]. The AAP has, however, implied that physicians should consider parental preference regarding disclosure of error to children [14] and recommended that institutions and individual physicians develop guidelines for identifying and disclosing preventable adverse events, including how investigations are conducted and findings communicated to patients and families [15].

Opinions in the *Code* similarly provide guidance to physicians who have erred in caring for adult patients, and particular recommendations can be applied to pediatric patients. Opinion 8.6 notes that, after disclosing the event, physicians should explain that "efforts … are being taken to prevent similar occurrences in the future" and "provide for continuity of care to patients who have been harmed … including facilitating transfer of care" [10]. Opinion 8.8, "Required Reporting of Adverse Events" [16], addresses the ethical responsibilities of physicians whose patients have been involved in adverse events, such as communicating the information to the professional community.

In sum, while physicians have obligations to inform adult patients and parents or guardians of minor patients about errors, there is no explicit guidance about whether and how to disclose errors to harmed children.

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