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FROM THE EDITOR

Preventing and Responding to Iatrogenesis in Pediatrics

Primum non nocere. First do no harm. This phrase embodies the principle of nonmaleficence, a fundamental bioethical standard within health care. However, clinical practice is a human art, and as such it is fraught with imperfection or what has been described as "necessary fallibility" [1]. Harm does in fact occur as a result of health care, but because there are variations in how the term "iatrogenesis" is used in the health professions literature to characterize such harm, the working definition we'll use in this theme issue is the following: iatrogenesis happens when an adverse outcome is experienced as a result of the health care a person receives. Etymologically, "iatrogenic" comes from the Greek roots *iatros* ("physician") and *gennan* ("as a product of") [2]. Iatrogenesis therefore encompasses a wide range of actions and inactions. Examples include risks associated with necessary therapies, such as side effects, imaging-induced radiation exposure, surgical complications, and errors. Finally, iatrogenesis can arise through failure to provide adequate care, for example, when misdiagnoses result in the delay of appropriate therapy or unnecessary interventions [3].

Although the topic of iatrogenesis has become more widely discussed, less has been said about its presence within pediatrics [4]. Yet the pediatric population encompasses some of health care's most vulnerable patients, demanding that we take special care to protect them and advocate for their best possible care. It is thus an ethical imperative for each pediatrician to educate himself or herself on the topic of iatrogenesis: how to recognize it, how to avoid it when possible, and how to deal with it when it occurs.

Pediatricians go into practice in order to heal illness and foster health in children. For this reason, the topic of iatrogenesis is often a distressing one for pediatricians and all health care professionals who work with children. Episodes of error, complications, health care-induced trauma, and mismanagement might not be adequately addressed due to clinicians' feelings of guilt and fear of loss of respect or legal retribution [5].

Morbidity and mortality conferences are perhaps the most commonly known avenue within health care for addressing iatrogenesis [6]. These conferences take place across specialties and institutions in which clinicians discuss events that led to an adverse outcome. In the spirit of such an approach, this issue of the *AMA Journal of Ethics* seeks to guide aspiring and practicing pediatricians through the complex process of understanding and responding to iatrogenesis.

Even the best pediatric interventions and therapies come with a set of risks and possible adverse side effects. It is up to the pediatrician to cultivate awareness of these potential outcomes in order to develop an evidence-based risk-benefit analysis for the purpose of informing their recommendations to their patients. But decision making in pediatrics does not take place in a vacuum, and pediatricians must also translate this information for the caretaker and family. Two of the ethics cases this month discuss this role of the pediatrician as communicator in discussions about iatrogenesis. Genevieve Allen and Naomi Laventhal examine factors to consider when assisting families in decision making concerning resuscitation for infants born at the margin of viability. Thomas D. Steensma, S. Annelijn Wensing-Kruger, and Daniel T. Klink discuss counseling children and adolescents with gender dysphoria on the possible iatrogenic harms of pubertal suppression and hormone therapy without compromising the care they require. They also discuss the possible iatrogenesis of characterizing gender dysphoria as a disorder, a diagnostic label that pathologizes natural variations in gender but also increases patients' access to care.

Although most clinical interventions can have iatrogenic risks and consequences, some therapies can be thought of as iatrogenic in and of themselves. Bloodletting, for example, was long thought to be a therapeutic intervention by the physicians of ancient Greece [7], and yet today we understand that this practice does not treat disease or alleviate symptoms and is in fact detrimental to the patient. Some health care practices we engage in and endorse today can cause harm. Three articles in this issue address controversial interventions. J. Steven Svoboda, Esq., argues that nontherapeutic infant male circumcision iatrogenically harms children by removing tissue that has important immunological and erogenous functions and exposes them to the risks of surgery. Samuel Reis-Dennis and Elizabeth Reis argue that physicians might be causing iatrogenic harm through certain genital surgical procedures, such as sex assignment for infants born with ambiguous genitalia, male circumcision, and labiaplasty (or labial remodeling). Silvana Barone and Yoram Unguru explore iatrogenesis at the end of life, arguing that prolonging life has iatrogenic effects and that social and cultural factors can inform countries' conceptions of the moral status of euthanasia.

As stewards of our profession and advocates for our patients, we as physicians have an ethical obligation to respond to iatrogenesis. Four articles examine possible ways we can prevent or mitigate these harms caused by medical care within pediatrics. Alberto Dionigi discusses the iatrogenic stress, fear, pain, and anxiety that children can experience in connection with medical interventions and explains how professional therapeutic clowning can help minimize these harms, improve healing, and provide opportunities for patient empowerment. Nancy Kassam-Adams and Lucas Butler bring our attention to trauma-informed care as a way to address the iatrogenic effects of pediatric medical traumatic stress, a concept that utilizes knowledge about trauma to influence policy and practice in order to prevent retraumatization. Lauren E. Hock and Niranjan S. Karnik

explore innovative approaches child psychiatrists can use to treat aggression in at-risk youth that address not only symptoms but also social determinants in order to promote mental health equality. Finally, in this month's podcast, Gigi McMillan and Robert Nelson discuss iatrogenesis in the context of pediatric brain tumor care and pediatric intensive care practice.

Even with these thoughtful initiatives and increased awareness of the desired goals of treatment, iatrogenesis is inevitable, and pediatricians must also be prepared to address these instances with compassion and resolve. Stowe Locke Teti, Kathleen Ennis-Durstine, and Tomas Jose Silber examine iatrogenesis in pediatrics through two case studies that focus on an ethical dilemma clinicians might face, namely, to respect parental autonomy by continuing nonadvised treatment or to uphold the patient's best interests by pursuing another course of care.

To be entrusted with the care of children is a privilege granted to all in the field of pediatrics. Modern health care has provided us with many advances in therapies and interventions that have improved the lives of children across the globe. Yet the reality that health care entails iatrogenic risks, preventable errors, and even misguided treatments, remains. As members of the health professions community, we have ethical obligations to educate ourselves about iatrogenesis and respond to it when it occurs. It is my hope that this issue on iatrogenesis in pediatrics will assist in this pursuit.

References

1. Gorovitz S, MacIntyre A. Toward a theory of medical fallibility. *Hastings Cent Rep.* 1975;5(6):13-23.
2. Iatrogenic. *Medical Dictionary*. http://medicine.academic.ru/4146/Iatrogenic. Accessed June 29, 2017.
3. Rogers CR. The case of Mr. Bebb: analysis of a failure case. In: Morgan RF, ed. *The Iatrogenic Handbook: A Critical Look at Research and Practice in the Helping Professions*. Chico, CA: Morgan Foundation Publishers; 2005:153-192.
4. Slonim AD, LaFleur BJ, Ahmed W, Joseph JG. Hospital-reported medical errors in children. *Pediatrics*. 2003;111(3):617-621.
5. Orlander JD, Barber TW, Fincke BG. The morbidity and mortality conference: the delicate nature of learning from error. *Acad Med*. 2002;77(10):1001-1006.
6. Kravet SJ, Howell E, Wright SM. Morbidity and mortality conference, grand rounds, and the ACGME's core competencies. *J Gen Intern Med*. 2006;21(11):1192-1194.
7. Papavramidou N, Christopoulou-Aletra H. Medicinal use of leeches in the texts of ancient Greek, Roman and early Byzantine writers. *Intern Med J*. 2009;39(9):624-627.

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