**Bioethics in the field of pediatric surgery**

Review

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**Financial support and sponsorship**: Nil  
  
**Conflicts of interest**: There are no conflicts of interest

**Abstract**

It is the professional responsibility of pediatric surgeons to follow the principles of maintaining life and alleviating suffering, often by questioning whether they have acted correctly. Apart from the moral dilemmas of choosing the best treatment strategies, they are often in dilemmas with the parents themselves, who also involve their own “strategy” in the whole story, which they think is the most optimal treatment for their child, despite the contrary recommendations of the profession. Children, and especially adolescents, may be somewhat involved in medical decision making. Mostly the parent-physician-child / adolescent triangle agrees, but this is not always the case, which is why pediatric surgeons encounter problems. Ethical committees, composed of competent people, supported by the legal system of the state, who are able by consensus of team members to advocate and ensure the best interests of patients, must be activated for the full scope of the solution.

**Keywords:** pediatric surgery, bioethics, children

**Introduction**

Across the world, pediatric surgeons are dealing with ethical issues on a daily basis regarding born and unborn children. There are moral concerns every day, to which even the scientific literature does not always have a decisive answer. It is the professional responsibility of pediatric surgeons to follow the principles of maintaining life and alleviating suffering, often by questioning whether they have acted correctly. We often wonder if in certain conditions, fully, in the best possible way, we can maximize life with minimal suffering for the patient. Apart from the moral dilemmas of choosing the best treatment strategies, they are often in dilemmas with the parents themselves, who also involve their own “strategy” in the whole story, which they think is the most optimal treatment for their child, despite the contrary recommendations of the profession. In resolving ethical issues for the sake of consensus, team members, despite the fact that rational people of good will may have different irreconcilable views, must; 1. identify the decision maker (in most cases it is the parent unless the patient is already of legal age); 2. check the "value data" from parents and other family members that include views on life, spirituality, religious beliefs, cultural norms and community values; 3. collect all relevant medical information, clarify areas of uncertainty and determine whether additional diagnostic processing would be useful in the decision-making process; 4. define all treatment options, including benefits, risks and chances of achieving the desired treatment outcome; a recommendation for the best treatment option; 6. to develop a consensus decision that can be accept by all stakeholders (1).

**Informed consent**

Although the latest research clearly indicates that children have been entering the concrete operational phase of development since the age of seven, with limited logical thought processes and reasoned decision making (2-4), we have witnessed that in our hospitals such reflections have not been fully implemented in order to maximize the autonomy of the child in accordance with his or her age. We often have the feeling that parents, by signing informed consent, express their own autonomy without realizing the responsibility to support their child's interests. It is for this reason that physicians should advocate parental responsibility instead of parental rights when talking to parents. This fact can also be widely applied to any child examination in the presence of a parent. Parents very often want to "help" their children in the absence of expertise, just holding on to their own autonomy, harm to the child and thus making it difficult for physicians to work. The American Academy of Pediatrics recommends that children, regardless of parental religious or other beliefs, receive effective medical treatment when such access leads to the prevention of harm, disability or death (5). Physicians must also understand that obtaining informed consent is not an event but a process that, with adequate communication, requires the exchange of information. The system in which these same physicians work where organizational problems outweigh the benefits of quality physician-patient-parent collaboration must not be overlooked.

**Professionalism**

Medical professionalism is a belief system in which group members ("professionals") disclose to one another and to the public the standards of competencies and ethical values that they promise to adhere to in their work, and what the public and individual patients can and should expect from medical professionals (6).

Many societies with the American Academy of Pediatrics have accepted the "Charter for Medical Professionalism" (7). Professionalism is the basis of medicine's contract with society. It requires placing patients' interests above the interests of physicians, setting and maintaining standards of expertise and integrity, and providing expert advice to society on health issues. Currently, the medical profession is facing an explosion of technology, changing market forces, health care delivery issues, bioterrorism and globalization.

As a result, it is increasingly difficult for physicians to fulfil their responsibilities to patients and society. In these circumstances, re-establishing the fundamental and universal principles and values of medical professionalism, which remain the ideals that all physicians should adhere to, becomes increasingly important.

It is vital for pediatric surgeons to resist any threat, especially in relation to our patients and their families. In this plan, the best answer is to constantly check our practices in accordance with universal ethical principles.

The Bioethics Committee of the American Academy of Pediatrics identified eight components of professionalism in pediatrics: honesty and integrity, reliability and responsibility, respect for others, compassion / empathy, self-improvement, self-awareness / knowledge of limits, communication and collaboration, and altruism and advocacy (8).

Despite our efforts, medical errors will sometimes occur, some of which will be detrimental to the patient. If a medical error occurs, patients and families expect a quick explanation of what happened, why the error occurred, how the consequences of the mistake will be mitigated, and how relapse will be prevented in the future. When a surgical error occurs in the child, regardless of the severity, the parents want to be informed of the errors and also expect that the error will be explained directly to the child (9-11). Although apologies can restore self-esteem and dignity to the patient, facilitate forgiveness and provide a basis for reconciliation, feelings of shame, fear of litigation, and damage to one's reputation can prevent physicians from admitting mistakes and apologizing.

**Clinical guidelines**

Standardization of care has become the focus of many efforts to improve quality in the healthcare system (12). A typical standardized protocol consists of a structured care plan. The guidelines aim to reduce variability in practice by incorporating the best available evidence, and are modified as new evidence emerges. Recent evidence in pediatric surgery suggests that standardization of care reduces variability, increases patient safety, and improves treatment outcomes. For example, the survival rate in infants with congenital diaphragmatic hernias has increased significantly following the application of a standardized treatment protocol (13). Clinical guidelines for uncomplicated appendicitis in children have led to reductions in unnecessary laboratory tests and antibiotics, reduced hospital stays, lower hospital costs, and less frequent rehospitalization (14,15). Also, following the introduction of clinical guidelines for pyloric stenosis, there has been a measurable reduction in length of hospital stay and hospital costs (16). The beneficial effects of standardized protocols for other conditions, including burns (17), thoracic empyema (18), and inguinal hernia have been observed (19).

It is interesting to note at the global level that pediatric surgery lags behind many other surgical specialties in the number of randomized clinical studies that guide our practice. Despite its drawbacks, randomized clinical studies remain the most effective method for evaluating new procedures. While out of the total randomized clinical studies, 3-6% are surgical, Moss et al. found that only 0.17% were pediatric surgery (20).

**Conditions and interventions in pediatric surgery that are the source of controversy**

* Circumcision

Male circumcision is the surgical removal of the foreskin of the penis. The ethics of clinically not indicated circumcision is a source of constant controversy. Some medical associations take the view that parents should determine what is in the best interests of their child, based on evidence that supports greater benefits than harms (reducing the risk of urinary infections, penile cancer and STDs, including HIV and HPV) (21). Others say that circumcision is a violation of the child's autonomy and should be postponed until he is able to make the decision himself (22, 23). It is interesting to note that the leading associations that take the view that circumcision benefits more than harm come from the United States of America, which to date have not ratified the UN Convention on the Rights of the Child (24).

* Multiple deformities

Multiple deformities when viewed globally are a common problem in the field of pediatric surgeons. The treatment request includes a number of options; life with acceptable handicap, life with unacceptable handicap and death. Parents must judge, on the basis of the expert recommendation received, whether the intervention will benefit their child. For example, the application of this principle to the most severe forms of deformity involves a particular difficulty because the decision to start treatment must be made when parents are too emotionally disturbed to consider the consequences and the child is immature to consent (25).

* Conjoined twins

Monozygotic twins may be related, and separation will test the surgeon's ingenuity and sovereignty (26). Separation must be considered only after proper study. Modern diagnostic methods have contributed most significantly to organ identification and circulation. Given this data and the heterogeneity of anatomy and physiology, it is difficult to define a standard of care. The goal is that the organs must be distributed as evenly as possible. The case of the "sacrifice" of a smaller twin with a smaller number of organs runs through many case reports. These problems must be resolved by consensus of the team members with the consent of the parents. More recently, there has been a clear view that, except in the case of an urgent indication, separation should not be rushed (accepting the autonomy of twins) for the purpose of a better quality of life, despite the assessment that it is medically possible (27).

* Sexual development disorders

On average, one in 4500 children is born with a sexual development disorder, more or less pronounced. For years, the tendencies of societies have been to recognize only male and female gender at birth, and thus have made children with gender disabilities undergo invasive surgery. At times, they were also associated with lifelong medicines that would confirm them as men or women. The 2006 "Consensus Statement on the Management of Intersexual Disorders" established the guiding principles of nomenclature, diagnosis and management of sexual development disorders and aimed to remove the controversy surrounding them. Initial contact with the parents of a child with a sexual development disorder is extremely important. It is crucial to emphasize that a child with a sexual development disorder has the potential to become a well-adjusted, functional member of society. Optimal care for children with a sexual development disorder requires an experienced multidisciplinary team located mainly in tertiary care centers. Ideally, the team includes pediatric endocrinologists, pediatric surgeons / urologists, psychologists, psychiatrists, gynaecologists, geneticists, neonatologists, and ethicists (28). New positions support delaying any interventions until individuals with a sexual development disorder can choose their gender themselves (29).

* Genetic testing

The role of predictive testing, outcome management and the role of informed consent for neonatal screening remain controversial. Genetic testing of children from today's perspective is a concern about the current and future autonomy and best interests of minors. Testing decisions must be balanced across multiple perspectives, including the likely benefits, risks of knowing their genetic status, and the availability of effective preventive, therapeutic, or palliative interventions. However, research and experience do not show serious adverse psychosocial effects of genetic testing and screening on children (30). The current tendency is to try to persuade parents to agree to testing when there are effective measures to prevent, treat, or improve the condition, and when, according to the physician's judgment, delaying testing could lead to irreversible harm to the child (31,32).

* Bariatric surgery

Although bariatric surgery is emerging as one of the solutions in the field of obesity in adult medicine, there is insufficient evidence for children and adolescents to support this thesis. Unfortunately, for some minors, bariatric surgery is the only option to save their lives or avoid serious illness. For others, bariatric surgery can be morally wrong, if more useful alternatives exist. Bariatric surgery certainly affects one's daily life and limits one's lifestyle. This raises the question of whether surgery reduces or increases patient autonomy. Obesity is often characterized as a lifestyle disease, and eating is a personal act of the individual's free choice. Obesity is therefore sometimes understood as a weakness of character. At the same time, it is argued that obesity may have genetic origins. However, scientists have agreed that surgical manipulation of children's healthy organs should be avoided in order to discipline their behaviour, satisfy social ideals for body shape, or compensate for poor parenting (33-35).

* Plastic cosmetic surgery

Cosmetic surgery in adolescence is not new, but the topic has emerged as a result of increasing media attention. "Changes" in body appearance can lower confidence and disrupt social acceptance. This can result in difficulties at school, aggression or withdrawal. The most common cosmetic procedures that teens want to change their appearance to improve their confidence are rhinoplasty, otoplasty, liposuction and breast augmentation. Rhinoplasty and otoplasty are the most sought-after surgery for teens and, if done early, can prevent years of emotional distress (36). Corrections can transform confidence, attitude and behaviour. For the adolescent population, the purpose of the operation should be maximally justified and provided that the patient has realistic expectations. Deformity, physical and emotional maturity, and the desired outcome for each adolescent patient must be carefully evaluated before decisions are made (37). Collaboration with mental health professionals is recommended to maximize patient outcomes (38).

* Fetal surgery

The relationship between the pregnant woman and the fetus offers a clinically complex situation for moral decision making. There is no global consensus agreement on the moral status of the fetus and therefore fetal treatment can be called into question clinically, socially, culturally, politically, legally and ethically. Obligations to the fetus may exist when the potential for a positive medical outcome is greater than the risk of harm in a therapeutic intervention. In many health laws in many developed countries, pregnant women must consent to an intervention that involves fetal intervention or surgery will not be performed. In the US, federal regulations also require a father's consent for fetal surgery and fetal research unless he is able to consent because of unavailability, incompetence, temporary incapacity or pregnancy resulting from rape or incest. The physician presents the procedure, its benefits and risks to the parents in the form of informed consent. The pregnant woman, as an autonomous person, has the right to decide not to continue the intervention (39,40). Multidisciplinary, collaborative and multi-institutional exchange of experience in the form of registers and collaborative prospective research are critical to advances in fetal surgery (41).

* Blood transfusion

Refusal to receive blood transfusions and blood products worldwide leads to considerable ethical and legal doubts in potentially life-threatening situations. Each surgical procedure must always be considered individually, so the risks of bleeding and possible bleeding death must be considered according to the type of surgery (42). Traditionally, except in emergencies, parental consent is required to perform medical procedures on children, including adolescents. Courts across the Western world recognize that parents have rights, but further acknowledge that these rights are not absolute and exist solely to promote the welfare of children. Parental rights for the upbringing of children are qualified by the duty to ensure their health, safety and well-being. Parents cannot make decisions that can permanently harm or otherwise impair a child's healthy development. Parental views should always be considered and treatment moderated when possible, but the interests of the child are always in the first place (43,44).

**Conclusion**

Autonomy is considered to be a major principle in making decisions about the health of individuals. Children, and especially adolescents, may be somewhat involved in medical decision making. Generally, the parent-physician-child / adolescent triangle agrees, but this is not always the case, which is why pediatric surgeons, and all other pediatric physicians, face problems. Ethical committees composed of competent people, supported by the state's legal system, must be activated in order to obtain full-scale solutions at the level of healthcare institutions. Committees must advocate and ensure (by consensus of team members) the best interests for patients, with the least mental, emotional and legal consequences for the physician.

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