

## Adverse Events During Dental Care for Children: Implications for Practitioner Health and Wellness

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**Abstract:** Adverse events during dental care for children inevitably happen, despite precautionary procedures. Remedial measures have primarily focused upon affected children and their parents/caregivers. The purpose of this paper was to summarize the effects of adverse events upon practitioners involved in the incident who have been termed second victims. Affected practitioners may suffer negative emotions impinging upon their professional performance as well as deleterious personal health consequences, including substance abuse and depression/suicidal ideation. Peer support has been identified as an important mechanism to foster recovery in second victims. Practitioners need supportive efforts following their inadvertent involvement in adverse events to facilitate their recovery and maintenance of personal health and wellness. (*Pediatr Dent* 2018;40(5):323-6) Received April 26, 2018 | Last Revision July 9, 2018 | Accepted July 17, 2018

KEYWORDS: LIFE CHANGE EVENTS, MEDICAL ERRORS, PATIENT SAFETY, RISK MANAGEMENT

In 1999, the Institute of Medicine (IOM), in its report “To Err is Human—Building a Safer Health System,” stated that adverse events in health care were of notable concern.<sup>1</sup> Medical errors were defined by IOM “as the failure of a planned action to be completed as intended or the use of a wrong plan to achieve an aim.”<sup>1</sup> The report also observed that the “majority of medical errors do not result from individual recklessness.”<sup>1</sup> The IOM report has become a milestone for the promotion of patient safety in health care, including in dental practice.<sup>2</sup> Addressing adverse events in dental practice is challenging, given the discrete settings where care is delivered.<sup>2</sup> It is clarified at this juncture that not all adverse events in health care result from medical error; some may be a random occurrence resulting from known diseases or unknown patient conditions.

There have been case reports documenting serious adverse events, including death, during the provision of dental care for children.<sup>3-5</sup> Dentists are more likely to be concerned about adverse events such as breakage of local anesthesia needles or ingestion/aspiration of objects during dental care for children.<sup>6-8</sup> However, others have expressed concern regarding serious morbidity during dental care for children. The American Academy of Pediatrics’ Annual Leadership Forum (2017) included a resolution on preventing deaths in dentists’ offices as one of its top 10 resolutions.<sup>9</sup> Lay media have echoed these concerns for children while they are receiving dental care.<sup>10</sup> Actual or estimated prevalence of adverse events during pediatric dental care have not been reported in the literature and would be difficult to fathom, as fear of litigation is a common barrier to reporting of such events.<sup>11</sup>

Data from medical literature provide a viewpoint regarding potential prevalence. Eighty-four percent of U.S. anesthesiologists reported involvement in a serious adverse event during the course of their career, while nine percent of U.S. surgeons reported having made a major medical error in the last three months.<sup>12,13</sup> The Boston Intraoperative Adverse Events Surgeons’

Attitude (BISA) Study found that 90 percent of surgeons reported an intraoperative adverse event during their career, with 80 percent recalling at least one adverse event within the past year.<sup>11</sup>

### Second victim

The primary focus of literature on adverse events in health care has been upon prevention and, secondly, upon their impact on patients/caregivers. Little attention has been devoted to practitioners involved in the adverse event who may have silently suffered from negative sequelae.<sup>14</sup> In 2000, Wu drew attention to practitioners involved in an adverse patient care event and coined the term “second victim” to highlight the impact of the incident upon practitioners and their personal needs in the aftermath.<sup>15</sup> It has been estimated that one in two health care practitioners could experience being a second victim at least once in their career.<sup>16</sup>

Regardless of gender or professional experience, the second victim phenomenon has been described as “a life-altering experience that left a permanent imprint on the individual.”<sup>17</sup> It has been remarked that “by focusing on provider as well as patient health, we may be able to foster resilience in providers and improve care for patients in healthy, safe, and constructive environments.”<sup>14</sup> Following an adverse event, three subcategories of impact upon practitioners were identified: (1) emotional reactions; (2) professional performance and self-confidence; and (3) duration of impact.<sup>18</sup>

### Emotional reactions

A personal story narrated by a practitioner, following her involvement in an adverse event, detailed the emotions she experienced.<sup>19</sup> It has been remarked that magnitude of impact upon practitioners involved in adverse events was similar to “other major life events, such as death of a close friend or relative, divorce, or exposure to some natural disaster.”<sup>20</sup>

Practitioners involved in an adverse event experienced initial shock and disbelief and then a combination of anxiety, sadness, anger, shame, guilt, embarrassment, frustration, difficulty concentrating, flashbacks (reliving the event), the feeling

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that one's professional reputation has been damaged, and decreased job satisfaction.<sup>11,12,17,18,21</sup> Associated physical signs and symptoms reported by affected practitioners included extreme fatigue, sleep disturbances, rapid breathing, rapid heart rate, increased blood pressure, and muscle tension.<sup>17</sup>

Surgeons' emotional responses following an adverse event have been described in four sequential phases: (1) kick, involving a feeling of failure with significant physiological response; (2) fall, with a sense of chaos and retrospection; (3) recovery, with reflection and a sense of moving on; and (4) long-term impact on personal and professional identities.<sup>22</sup> Based upon qualitative research, six post-event stages experienced by practitioners involved in an adverse event have been described<sup>17</sup>: (1) chaos and accident response; (2) intrusive reflections; (3) restoring personal integrity; (4) enduring the inquisition; (5) obtaining emotional first aid; and (6) moving on.<sup>17</sup>

Practitioners may simultaneously experience one or more of the first three stages upon realization that an adverse event has occurred.<sup>17</sup> The final stage of moving on transpired in one of three potential pathways:<sup>17</sup> (1) thriving—maintaining work/life balance and advocating for patient safety initiatives; (2) surviving—coping and performing at expected levels but with lingering sadness about the event; and (3) dropping out—modifying one's professional role, geographical relocation, or quitting the profession.<sup>17</sup>

Involvement in a patient safety incident was also related to greater work-home interference (pressures experienced within the work environment incompatible with pressures in the family domain).<sup>23</sup>

### Professional performance

Following an adverse event, some practitioners felt insecure in their professional role and were not able to think coherently, in particular immediately after the event.<sup>17,18</sup> Two-thirds of U.S. anesthesiologists who had experienced perioperative catastrophe "believed that their ability to provide patient care was compromised in the first four hours subsequent to the event."<sup>12</sup> Practitioner impairment following an adverse event may result in harm to subsequent patients treated by the practitioner and likely render these subsequent patients as third victims of the tragedy.<sup>20</sup>

Surgeons described their clinical judgment being affected by the adverse event as comprising of minimization for the case in question and overcompensation for future cases.<sup>22</sup> A survey of U.S./Canadian physicians found emotional distress and job-related stress increased following involvement in a serious error.<sup>24</sup> Some practitioners even considered quitting their profession following their involvement in an adverse event.<sup>12,23</sup>

### Duration of impact

Following an adverse event, many practitioners showed emotional recovery within a week, although distress experienced by practitioners could be more long-lasting—sometimes up to even a year or more; some practitioners, in fact, never fully recovered.<sup>12,18</sup> Some practitioners also developed serious negative personal consequences in the long-term. These included burnout, depression, suicidal ideation, and alcohol and/or drug abuse.

### Burnout, depression, and suicidal ideation

Practitioner involvement in an adverse event has been associated with burnout, while some practitioners experienced clinical depression that required professional treatment and prolonged

sick leave.<sup>13,18,23,25</sup> Major medical errors were also associated with suicidal ideation among U.S. surgeons.<sup>25</sup> It was notable that one third of U.S. surgeons expressed concern for their professional license and were, therefore, reluctant to seek help for treatment of mental health problems.<sup>25</sup>

### Drug and/or alcohol abuse/dependence

A survey of U.S. anesthesiologists who had been involved in at least one perioperative catastrophic event reported that "five percent admitted to the use of drugs and alcohol as part of their coping mechanism."<sup>12</sup> Based upon the Alcohol Use Disorders Identification Test – Consumption (AUDIT – C), prevalence of alcohol abuse/dependence was 15 percent among U.S. surgeons, with an even greater likelihood among those who had been involved in a major medical error.<sup>26,27</sup> Substance use may be a consequence for a vulnerable individual after a severe adverse event.

### Fostering resilience following an adverse event

The goal of a dental practitioner inadvertently involved in an adverse event should be to move expeditiously through the various post-event stages for healing their personal self and to continue thriving in dental practice. It should be recognized that each individual has his or her own personal response and timeline for recovery.

Two coping strategies have been identified in the literature: (1) problem-focused coping—"the individual tries to cope with the problem that causes distress and tries to determine what transpired. In this strategy, the clinician is trying to learn from the mistake, which includes information seeking, problem solving, and attempting to deal with the problem itself"<sup>16</sup>; and (2) emotion-focused coping—"the individual copes by managing the emotional distress caused by the error."<sup>16</sup>

It is important for practitioners to talk about the adverse event and receive immediate emotional peer support, particularly following incidents involving serious harm to patients.<sup>11,18,23</sup> Peer support following an adverse event allows second victims to "share the emotional burden and receive personal and professional reassurance."<sup>18</sup> Given the nature of a dental practice as a discrete entity, organized dentistry organizations such as the American Dental Association and American Academy of Pediatric Dentistry should consider facilitating peer-support networks to assist dentists involved in an adverse event. Online programs such as the "Second Victim" SharePoint and Mitigating Impact in Second Victims may be suitable formats for dentistry to emulate.<sup>28,29</sup>

Professionals are affected in a two-fold manner by adverse events: "first, by the incident itself, and second, by the manner in which the incident is handled."<sup>18</sup> All dental practices should, therefore, include within their patient safety protocol a management plan for practitioners/dental staff following serious adverse events. Solutions for helping practitioners following their involvement in adverse events during patient care include<sup>14</sup>:

1. Support/counseling. Formal peer support systems for practitioners have been developed such as the RISE (Resilience in Stressful Events) program at Johns Hopkins Hospital, Baltimore, Md., USA, and the Peer Support Team at Brigham and Women's Hospital, Boston, Mass., USA.<sup>30,31</sup>
2. Analyzing the mistake/learning from it.
3. Discussing mistakes—disclosure and apology. Practitioners have mixed feeling about disclosing errors to patients, irrespective of malpractice concerns.<sup>32</sup> It

was of interest that “physicians who believed that disclosure decreased malpractice risk were considerably more supportive of disclosure.”<sup>32</sup> Physicians varied widely in how they would disclose errors to patients, indicating the need for disclosure standards and practitioner training.<sup>33</sup> Thirty-seven states and the District of Columbia have adopted either apology laws or disclosure laws or both so that health care providers have legal protection “to apologize to patients for a medical mistake.”<sup>34</sup>

As aforementioned, professional judgment might be impaired in the immediate aftermath of an adverse event. Therefore, it is important that practitioners devise a strategy for temporary cessation of clinical activities at least for four hours, possibly longer, following their involvement in an adverse event. This will allow the practitioner to recover and prevent provision of suboptimal care to another patient who may then become the third victim of the adverse event. It is imperative to prevent a negative loop of error, which can lead to a decrease in quality of post-event subsequent patient care and thereby result in even more errors.<sup>19</sup>

In conclusion, within the context of dental care for children, patient safety measures involving the child patient and their parents/caregivers remain paramount; however, it’s suggested that protocol for management of adverse events in dental care should also include the dental practitioner. This is a pressing issue; consider that, with increasing technological conveniences, nonideal patient interactions such as adverse events may be posted online, projecting a biased narrative that sometimes draws media attention in a quick and exponential manner. Targeted practitioners may experience considerable distress, with their response curtailed by ethical and legal mandates.<sup>35</sup>

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