

SMALL PATIENTS = BIG RISKS

PEDIATRIC LIABILITY IN 2010

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Risk management does not save only money. Good risk management saves lives. This is especially true in the care of children.

Risk management and patient safety initiatives that focus on children should always be a high priority for health care organizations that treat pediatric patients in any volume. Yet pediatrics is often not considered a high-risk area in acute-care settings. While the current national medical malpractice environment is very stable as to low claim frequency and moderating severity trends, the most volatile health care professional liability cases to defend involve severely injured children in obstetric and pediatric scenarios. Some of the largest verdicts and settlements in the U.S. in the last five years have occurred in pediatric cases – in many instances exceeding \$5 million. The emotional impact on a jury of a severely injured child in a medical malpractice case is almost always a primary factor that results in multi-million dollar verdicts. But it is not the only one. Another is improved medical care for severely injured children, which results in more expensive care over more years. Life-care plans for children are very costly. In states without non-economic damage caps (e.g., New York, New Jersey, Illinois, Pennsylvania and Florida), verdicts and settlements can exceed \$10 million.

This article will review recent pediatric liability trends, including the unique reasons for heightened risk in pediatric settings, recurring low frequency/high severity claims involving meningitis and volvulus and ways to mitigate risk, and claim trends involving pediatricians.

The overlap between health care quality and risk management is the elimination of substandard care. This cannot be achieved unless we



understand the trends relative to internal risk management, national claims and medical error.

A UNIQUE RISK

Pediatric risk is unique. Children have limited, if any, ability to communicate with caregivers. If caregivers/providers have language barriers, knowledge deficits and limited parenting skills, any and all problems are exacerbated. A health care setting that does not make accommodations for a child's limited size, intellectual capacity and judgment can foster risk of injury to the very children who need care. Children require age and size-appropriate equipment and medications. Improving patient safety and risk management programs that involve children requires taking into account these areas of vulnerability in pediatric settings.

Woods et al. published an overview of risk factors and patient safety in pediatric patient populations. These factors included children's size, physiology and development. The study found that the aspect of pediatric care that caused the most frequent patient safety issues was medication administration, followed by surgical and non-surgical procedures.¹

A 2005 study found that adverse events occurred in the care of children in 1% of the pediatric hospitalizations - and that 60% of these events were preventable. Simply put, this means that 70,000 hospitalized children are being further injured in what should be a safe and care-giving environment.² Some studies suggest this number may be even higher.

A study published in 2003 found that the rate of medical errors for hospitalized children ranged from 1.81 to 2.96 per 100 discharges. This study also found that chronically ill children or those dependent on medical technology “had significantly higher rates of...medical errors,” and children whose cases involved medical errors had longer hospitalizations and “significantly higher death rates.” Researchers found that the three leading categories for adverse events in children were birth-related, diagnostic-related and system-related. Children were much more likely to have a diagnostic-related preventable event than adults (1.35 times more likely).³

Medication administration in children is complex and presents a significant risk to pediatric patient safety. A U.S. Pharmacopeia study in 2002 found that 6% of medication errors in children cause harm versus 2.4% for all other ages. There is a lack of standardized dosing regimens for children, and children’s bodies are less capable of buffering medication errors than adult’s. Many medications do not come in pediatric doses, thereby creating the chance for errors in calculating the correct dosages. Lack of accurate patient weight information often contributes to dosage errors.⁴ The requirement of

RECENT LARGE PEDIATRIC LOSSES

Location	Date	Award	Pediatric Issue
Los Angeles	12/09	\$5M (s)	Kernicterus. Bilirubin levels alleged not timely reported by lab
Chicago	11/09	\$22.3M (v)	Infant's leg required amputation following delays and alleged negligent care
Tampa/St. Petersburg	10/09	\$11.1M (v)	Infant incurred brain damage; alleged failure to treat dehydration
Madison, WI	4/09	\$17.3M (v)	Alleged improper performance of a splenectomy on 8-year old; brain damage
Kansas City	3/09	\$12.1M (v)	8-year old alleged as improperly diagnosed; arteriovenous malformation hemorrhaged; quadriplegia
Wisconsin	7/08	\$35.1M (v)	Alleged negligent performance of transfusion (air in line); 2-week old infant; quadriplegia
Florida	4/08	\$38M (v)	Alleged failure to diagnose ROP; blindness; twins
Georgia	3/08	\$24.5M (v)	Alleged failure to monitor child's leg for blood flow problems; amputation of 14-year old boy's leg
Los Angeles	7/07	\$15.4M (v)	Alleged failure to diagnose and treat kernicterus
Philadelphia	11/06	\$20M (v)	Infant with ROP alleged lost to follow-up after NICU discharge; blindness

(v) – verdict (s) – settlement

customizing medication dosages for children results in more steps in the process, which in turn opens up more opportunities for error. The rate of error for potential serious medication errors is three times more frequent in pediatric patients. Very young children are particularly “vulnerable to dangerous 10-fold errors in dosing.”⁵ The highly publicized incidents with heparin involving neonates in Indianapolis and Los Angeles fall into this category.

Staff training and education, or the lack thereof, can be a factor in pediatric claims. Community hospitals with a low census of children may leave medical and nursing staff uncomfortable with caring for children.

Many acute-care facilities and other types of settings where children are seen, even if infrequently, must have the appropriate equipment in the correct sizes to treat pediatric emergencies, especially resuscitation equipment. This is often not the case, however. The CDC in 2006 found that less than 6% of all hospitals had on hand all the pediatric supplies in the full range of sizes.⁶ The American Academy of Pediatrics Committee on Hospital Care publishes a recommended list of medical equipment for hospitals providing general pediatric care.

LOW FREQUENCY/ HIGH SEVERITY CLAIMS BY CONDITION

Four types of recurring pediatric cases in the category of high frequency/low severity are particularly problematic. They include meningitis, malrotation of the bowel/volvulus, retinopathy of prematurity (ROP), and kernicterus. Verdicts and settlements in these cases often are in multiple millions of dollars. The trial bar seeks out these high damage cases through diverse advertising strategies, especially through the internet.⁷

Meningitis and malrotation of the bowel cases frequently involve misdiagnosis and/or delayed treatment. Children presenting with fevers or abdominal pain can be notoriously difficult to diagnose. These cases can involve errors in judgment and errors in communication, as well as system breakdowns, such as failure to manage critical test results. Pediatricians historically are especially vulnerable to liability from telephone communications with parents, according to Physician Insurers Association of America (PIAA) Closed Claim data on that specialty.⁸

However, retinopathy of prematurity (ROP) cases and kernicterus cases often involve system breakdowns. These systemic errors result in neonates not receiving requisite initial eye examinations or subsequent follow-up examinations (ROP), or initial and follow-up testing and/or treatment for jaundice/highly elevated bilirubin levels in the blood (hyperbilirubinemia) resulting in kernicterus.

In recent editions of *HealthTrek*, **ROP** and **kernicterus** liability and risk management issues are addressed in detail.

MENINGITIS

Meningitis is an inflammation of the brain lining (known as the meninges). Of the four conditions causing low frequency/high severity claims in pediatrics, meningitis is foremost, because this condition occurs more frequently in children than the other three and is perhaps the most expensive to resolve, both as to indemnity and claim expense.



Meningitis is a difficult diagnosis. Many children present with fever but meningitis symptoms are often confusing and subtle. The symptoms of other illnesses are often present and can make it difficult to distinguish a presentation of meningitis. The symptoms can sometimes be quite evident or very few. The patient is usually too young to verbalize headache or neck pain. Bacterial strains, the most virulent, can often progress rapidly, providing a very narrow window within which to provide effective therapeutic intervention.⁹

Unlike ROP and kernicterus, there are very few widely published and accepted guidelines on the treatment of febrile children, especially infants. Reasonable providers can come to different conclusions about whether or not to subject an infant to a spinal tap based on the clinical presentation of the patient, the cost, the risk of complications (e.g. a contaminated tap) and fully informed parental consent.¹⁰

Meningitis claims are expensive due to the high cost of life-care plans for a neurologically impaired child. Meningitis death claims are also expensive and difficult to defend.¹¹ A study published in 2007 on PIAA meningitis malpractice claims found that one-third of the cases involved the death of the child.¹²

The PIAA issued a special report on meningitis claims in the year 2000. It looked at 724 meningitis claims over a 15-year time frame from 1/1/85 to 12/31/99. Its major findings are still instructive, including:

- The initial contact by the patient (or caregiver) was by telephone in roughly 18% of all cases. These claims were more than twice as expensive to resolve than contact that occurred initially in the physician's office.
- A physician's delayed response to patients and caregivers contributed to the delay in diagnosis of meningitis. Longer response times also resulted in higher indemnity payments.
- The patient was often incorrectly diagnosed with a viral disease, such as an ear infection or upper respiratory infection.¹³
- The type of meningitis most commonly involved in these claims was the bacterial strain (in 86.3% of all cases).
- Young patients were most often involved, thus resulting in significant damages and high indemnity with more than 60% of all patients age two or younger.¹⁴

Risk management strategies for meningitis include careful listening to caregivers about changes observed in an infant; providing clear follow-up instructions, including symptoms that require immediate medical care; thorough documentation of all communication and observations; maintaining a high index of suspicion for meningitis when evaluating young children with flu-like symptoms; and evaluation, referral and/or admission of patients presenting with any symptoms indicating meningitis until it has been ruled out.¹⁵

VOLVULUS/MALROTATION OF THE BOWEL

Like meningitis, volvulus/malrotation of the bowel can be a difficult condition to diagnose in children, especially outside the neonatal period, for many reasons. Not every child with malrotation of the bowel develops volvulus. But an article in a 2003 pediatric surgery publication stated, "Malrotation with its propensity for volvulus is truly a time bomb lying within."¹⁶

Volvulus is defined as "a twisting of the intestine causing obstruction; if left untreated may result in vascular compromise of the involved intestine."¹⁷ Volvulus, in effect, is a complication of malrotation of the bowel.¹⁸

Many times, the obstruction can occur intermittently or the bowel will untwist spontaneously; but if it does not, the consequences can be catastrophic (loss of blood supply to the bowel resulting in necrosis and removal of the bowel, meaning a lifetime of dependency on parenteral nutrition¹⁹), even fatal.²⁰ Volvulus with intestinal obstruction is a surgical emergency for children at any age and requires rapid intervention, and therefore, a timely diagnosis. Surgical intervention restores blood supply to the bowel unless it is already necrotic.²¹

The most common presentation of this condition occurs during a child's first year, especially in the neonatal period, but the condition can occur in older children and even adults. The condition occurs in males at twice the rate of females in the first year of life. Infants often present within the first week of life (often after hospital discharge²²) with bile-staining vomit and an acute bowel obstruction. However, the clinical presentation is often muddled in that the patient may present with other symptoms, such as diarrhea, shock, gastrointestinal bleeding, evidence of sepsis, and nonbilious vomiting.²³ Infants with this condition may have a normal initial abdominal examination in 50-60% of all cases.

Older infants can present with symptoms, such as recurring episodes of stomach pain that may mimic colic. Older children can present with recurring symptoms of stomach pain, vomiting, or both, in addition to signs of malabsorption and failure to thrive, but 25-50% of all adolescents with volvulus/malrotation are asymptomatic.²⁴

Obtaining appropriate imaging studies is of great importance for this diagnosis but even with that, occasionally the radiologic findings may be very confusing due to anatomic variation.²⁵ This can lead to over-diagnosing the condition of volvulus and an unnecessary surgical procedure. However, in the risk/benefit analysis, the known complications of such abdominal surgery are rarely catastrophic, while the failure to swiftly intervene surgically just may be. It is not an easy evaluation to make when the symptoms of volvulus are not obvious.²⁶

In terms of risk management, the pediatric presentation of malrotation with mid-gut volvulus is uncommon, but the pediatric practitioner should always be on guard for it due to its devastating potential.

- It usually occurs in the first month of life, as sudden bilious vomiting is an indication there is a significant proximal bowel obstruction.
- Physical exam and plain abdominal x-rays can both be normal in the early stages.
- Simultaneous consultations to radiology for an emergent upper GI series and to surgery for an early status alert are imperative once this is suspected.
- Bowel decompression via an NG tube with concurrent intravenous hydration should be started immediately.
- The health care team should minimize all delays to assure the patient reaches the proper operating facility at once to avoid a serious negative outcome.²⁷

PEDIATRICS: PHYSICIAN CLAIMS

The Physician Insurers of America (PIAA) has been tracking physician closed claims in a cumulative database submitted by member companies since 1985. It is the most credible source of information concerning medical professional liability trends involving physicians. Claims against pediatricians are more expensive to resolve than almost all specialties, exceeded only by Neurosurgery, Neurology, Radiation Therapy, and Obstetric and Gynecologic Surgery.

Pediatrics was ranked tenth among the 28 specialties followed by the PIAA from 1985 to 2009 regarding the number of claims presented, but ranks fifth in highest average indemnity paid. While the percentage of paid claims to closed was lower than that for all other 28 specialties combined (27.9% versus 29.05%), the average indemnity for pediatrics is significantly higher than the overall average for all specialties (\$271,784 versus \$212,722). However, there has been improvement in the average indemnity paid in pediatric claims when comparing the years 2000-2004 versus 2005-2009 (\$474,401 versus \$384,504).²⁸

TOP 10 PHYSICIAN SPECIALTIES PIAA COMPARATIVE CLAIM PAYMENT ANALYSIS

Claims Closed Between 1985 and 2009

Patient Condition	Closed Claims	% Paid to Closed	Total Indemnity	Average Indemnity
Neurosurgery	5794	28.41	\$532,031,130.00	\$323,227.00
Neurology - nonsurgical	3956	21.94	\$279,287,658.00	\$321,760.00
Radiation Therapy	2409	28.44	\$202,384,071.00	\$295,451.00
Obstetric and Gynecologic Surgery	33510	35.12	\$3,372,306,313.00	\$286,566.00
Pediatrics	7186	27.90	\$544,926,823.00	\$271,784.00
Pathology	1732	28.52	\$124,101,295.00	\$251,217.00
Cardiovascular Diseases - nonsurgical	4735	18.50	\$218,678,876.00	\$249,633.00
Anesthesiology	9536	32.03	\$700,392,192.00	\$229,336.00
Cardiovascular and Thoracic Surgery	7498	23.55	\$396,988,303.00	\$224,795.00
Gastroenterology	2676	18.54	\$109,659,521.00	\$221,088.00
Totals for Top Ten:	79032	26.29	\$6,480,756,182.00	\$267,485.70
Totals for All Specialties:	247073	29.47	\$15,491,291,841.00	\$212,722.00

Source: PIAA 2010

According to the PIAA the five most prevalent conditions in claims closed against pediatricians in the cumulative study involved: the brain damaged infant, meningitis, children seen for routine health checks, newborn respiratory problems, and pneumonia. Meningitis was not only the second most prevalent condition, but also had the highest average indemnity at \$444,488, barely surpassing claims involving a brain-damaged infant at \$443,804.²⁹

PEDIATRICS CLAIMS BY 10 MOST PREVALENT PATIENT CONDITIONS

Cumulative Analysis: January 1, 1985 - December 31, 2009

Patient Condition	Closed Claims	% Paid to Closed	Total Indemnity	Average Indemnity
Brain Damaged infant	573	28.45	\$72,339,971.00	\$443,804.00
Meningitis	329	43.77	\$64,006,228.00	\$444,488.00
Routine infant or child health check	201	21.39	\$8,442,909.00	\$196,347.00
Respiratory problems in the newborn	180	17.22	\$8,897,603.00	\$287,019.00
Pneumonia	147	21.09	\$7,925,454.00	\$255,660.00
Appendicitis	145	32.41	\$6,605,050.00	\$140,533.00
Specified nonteratogenic anomalies	126	42.06	\$10,108,836.00	\$190,733.00
Premature infant	111	16.22	\$4,270,368.00	\$237,243.00
Congenital anomaly of genital organs	83	25.30	\$4,791,249.00	\$228,155.00
Birth	81	16.05	\$3,875,480.00	\$298,114.00
Totals for Top Ten:	1976	28.54	\$191,263,148.00	\$339,119.00

Source: PIAA 2010

In the category of pediatric medical misadventures reported in Pediatrics, the most prevalent problem was diagnostic error, reported to the PIAA as the foremost issue in 32.4% of all claims reported in the cumulative study. The five most prevalent conditions resulting in diagnostic error claims included: meningitis (with more than half resulting in indemnity payments), appendicitis, congenital anomalies, pneumonia, and the brain damaged infant.³⁰

PEDIATRICS CLAIMS BY 10 MOST PREVALENT MEDICAL MISADVENTURES

Cumulative Analysis: January 1, 1985 - December 31, 2009

Medical Misadventure	Closed Claims	% Paid to Closed	Total Indemnity	Average Indemnity
Errors in diagnosis	2328	34.88	\$226,917,718.00	\$279,455.00
No medical misadventure	1545	6.54	\$34,325,159.00	\$339,853.00
Improper performance	926	28.62	\$57,464,109.00	\$216,846.00
Failure to supervise or monitor case	657	35.31	\$75,115,769.00	\$323,775.00
Medication errors	338	30.47	\$18,388,988.00	\$178,534.00
Failure/delay in referral or consultation	217	43.32	\$24,439,234.00	\$259,992.00
Not performed	198	42.93	\$18,413,992.00	\$216,635.00
Failure to recognize a complication of treatment	187	29.95	\$13,101,517.00	\$233,956.00
Delay in performance	180	39.44	\$24,721,067.00	\$348,184.00
Performed when not indicated or contraindicated	110	24.55	\$4,949,871.00	\$183,329.00
Totals for Top Ten:	6686	27.61	\$497,837,424.00	\$269,684.00

Source: PIAA 2010

PEDIATRICS CLAIMS BY MEDICAL MISADVENTURE AND PROCEDURE/CONDITION

Cumulative Analysis: January 1, 1985 - December 31, 2009

Errors in Diagnosis

Medical Misadventure	Closed Claims	% Paid to Closed	Total Indemnity	Average Indemnity
Meningitis	182	51.65	\$41,212,211.00	\$438,428.00
Appendicitis	102	37.25	\$6,118,551.00	\$161,015.00
Specified nonteratogenic anomalies	76	50.00	\$7,512,884.00	\$197,707.00
Pneumonia	62	19.35	\$4,859,500.00	\$404,958.00
Brain Damaged infant	59	38.98	\$8,387,677.00	\$364,682.00
Totals for Top Five:	481	42.62	\$68,090,823.00	\$332,150.00

Source: PIAA 2010

CONCLUSION

Children in any health care setting are more vulnerable to patient injuries than adults for many reasons. Risk management and patient safety initiatives in physician practice and facility settings should focus intensively on prevention when the patient population includes pediatric patients. Addressing potential system errors, insufficient supplies and inadequate staff training in pediatric settings will mitigate much of the risk of injuring our most vulnerable patients: children.

FOOTNOTES

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- ⁴Press Release, U.S. Pharmacopeia, December 4, 2002.
- ⁵Ibid. Woods, et al., at p.158.
- ⁶Center for Disease Control, Press Release, February 28, 2006.
- ⁷Author’s note: Using Google or other search engines to perform searches with the key words “kernicterus” and “malpractice” will result in a lengthy list of a number of plaintiff’s law firm sites, such as “New Jersey Jaundice Lawyers.”
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