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Booster Seat Laws and Fatalities in Children 4 to 7 Years of Age

Previous studies have demonstrated that booster seat legislation decreased fatalities in children. However, these studies have not accounted for confounding factors such as other legislation and temporal trends in safety.

This study demonstrates that state booster seat laws are associated with decreased rates of fatalities and injuries in children 4 to 7 years of age in the United States, with the strongest effects in the older children.

Continuous Versus Bolus Infusion of Doxorubicin in Children With ALL: Long-term Cardiac Outcomes

Doxorubicin therapy, effective against many malignancies, is limited by cardiotoxicity. Continuous-infusion doxorubicin, compared with bolus-infusion, reduces early cardiotoxicity in adults. Its effectiveness in reducing late cardiotoxicity in children remains uncertain.

This multicenter randomized trial assessed whether continuous-infusion of doxorubicin in pediatric patients provides long-term cardioprotection or improvement in event-free survival over bolus-infusion in acute lymphoblastic leukemia. Continuous-infusion of doxorubicin provided no cardioprotection or improvement in event-free survival.

Age, Academic Performance, and Stimulant Prescribing for ADHD: A Nationwide Cohort Study

The impact of relative age at school entry on academic progress and the risk of being diagnosed with ADHD remains

controversial. Stimulants are widely used as a therapeutic option for ADHD in the United States and increasingly in Europe.

Relative age among classmates affects academic performance among boys and girls into puberty, as well as children's risk of being prescribed stimulants for ADHD. This should be taken into account when evaluating children's performance and behavior in school to prevent unnecessary stimulant prescribing.

Muscle-enhancing Behaviors Among Adolescent Girls and Boys

Emphasis on muscularity has increased in recent decades. Identifying adolescent populations at risk for unhealthy muscle-enhancing behaviors is of considerable importance, yet recent research in the United States is limited in terms of sample diversity and behaviors of interest.

Muscle-enhancing behaviors were common for both boys and girls, and rates were higher than reported previously. Adolescents in high school, of Asian background, in overweight/obese BMI categories, and involved in sports reported significantly greater use than other youth.

Predictors of Delayed or Forgone Needed Health Care for Families With Children

The past several decades have seen a dramatic increase in the costs of health care and the prevalence of childhood activity limitations. More families with children are experiencing financial burden related to the cost of health care and insurance.

We find significant inequities in the occurrence of delayed or forgone needed health care for families with children as

a result of high health care–related financial burden and having a child with an activity limitation.

Timing of the Introduction of Complementary Foods in Infancy: A Randomized Controlled Trial

In a previous randomized trial, infants from a low-resource country exclusively breastfed for 6 months had lower iron stores at 6 months compared with breastfeeding infants receiving solid foods. Randomized trials of exclusive breastfeeding in high-income countries are lacking.

In a high-income country, infants who receive complementary foods in addition to breast milk from 4 months of age had higher iron stores at 6 months compared with those exclusively breastfed for 6 months.

Self-Report of Child Care Directors Regarding Return-to-Care

Previous studies have found variable child care provider compliance with American Academy of Pediatrics child care illness exclusion guidelines and high rates of unnecessary exclusion of mildly ill children from child care.

Our study is the first to compare child care directors' return-to-child care practices before the release of the new American Academy of Pediatrics return-to-child care guidelines and to describe the guidelines' impact if actively adopted by child care providers.

Home Safety and Low-Income Urban Housing Quality

The effect of substandard housing on children's risk of diseases such as asthma has been studied; little is known about how it affects child injury risk. Pediatricians actively promote injury prevention but typically without regard to housing quality.

Low-income children are likely living in substandard homes, which is significantly associated with not having working smoke alarms and safe hot water temperatures. Pediatricians can use these results to inform anticipatory guidance.

Fish Consumption in Infancy and Asthma-like Symptoms at Preschool Age

Several studies have reported inverse associations between fish consumption during pregnancy or later childhood and asthma prevalence. However, because fish can also be highly allergenic, the optimal timing of introduction of fish and the adequate amount in infancy remains unclear.

Introduction of fish between 6 and 12 months but not fish consumption afterward is associated with a lower risk of

wheezing whereas no introduction of fish or introduction between 0 and 6 months of life increases the risk of wheezing.

Effectiveness of Protective Eyewear in Reducing Eye Injuries Among High School Field Hockey Players

Data from several states that have implemented protective eyewear mandates at the scholastic level have shown a substantial reduction in eye injuries. However, there are no studies that critically evaluate the effectiveness of protective eyewear in girls' field hockey.

Data collected from regional/national high school sports injury surveillance databases by certified athletic trainers has resulted in the largest prospective national study examining the effectiveness of mandated protective eyewear in reducing head, eye/orbital, concussive, and facial injuries performed to date.

Pediatric Inflatable Bouncer–Related Injuries in the United States, 1990–2010

A previous study of inflatable bouncer–related fractures has shown that upper extremity fractures are most common, and many fractures are caused by collisions; however, no study has examined nonfracture injuries or used nationally representative data to investigate inflatable bouncer–related injuries.

This is the first study to use nationally representative data to calculate national injury rates, assess risk factors, and examine trends for pediatric inflatable bouncer–related injuries treated in US emergency departments over a 21-year period (1990–2010).

Hospitalization of Rural and Urban Infants During the First Year of Life

Patients living in rural versus urban counties encounter different health care environments. Whether these differences result in different health care utilization for rural versus urban infants is not known.

In this study, infants living in rural California counties were hospitalized less often than infants living in urban counties. Among those hospitalized, infants living in rural counties were hospitalized for fewer cumulative days than infants residing in urban counties.

Long-term Benefits of Home-based Preventive Care for Preterm Infants: A Randomized Trial

Randomized controlled trials of early developmental interventions for very preterm infants demonstrate short-term benefits for infant neurobehavioral functioning. The longer-

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digest Summary

term benefits of these interventions for children and their families are not yet clear.

This randomized trial shows that home-based preventive care over the first year of life for very preterm infants has selective long-term benefits. Caregivers report less anxiety and fewer were at risk for an anxiety disorder. Preschoolers show fewer internalizing behaviors.

Obesity Disparities Among Elementary-Aged Children: Data From School-Based BMI Surveillance

Nationally representative surveys provide insight into overall childhood obesity trends and disparities but do not identify patterns specific to individual states. School-based surveillance is recommended, but it is unclear whether surveillance is helping to identify children at greatest risk.

This study includes 3 consecutive years of surveillance findings to describe within-state spatial and socioeconomic disparities in obesity among elementary-aged children. Implications for states using and considering school-based surveillance to plan preventive interventions are considered.

Office-Based Randomized Controlled Trial to Reduce Screen Time in Preschool Children

Interventions to reduce screen time in preschool-aged children are promising.

A screen time intervention in 3-year-old children implemented in the primary care setting did not reduce screen time or BMI.

Prevalence and Characteristics of Rib Fractures in Ex-preterm Infants

Osteopathy of prematurity continues to occur in preterm infants. Osteopathy of prematurity can cause rib fractures in ex-preterm infants.

Rib fractures in ex-preterm infants are often posterior and multiple. Posterior rib fractures may not be diagnostic of nonaccidental injury in ex-preterm infants.

Pediatric Providers' Self-Reported Knowledge, Practices, and Attitudes About Concussion

Previous studies have revealed misconceptions among pediatric patients, their families, and athletic coaches surrounding concussion. Little is known about pediatric primary care and emergency medicine providers' attitudes and beliefs about diagnosis and management of this mild traumatic brain injury.

Although pediatric primary care and emergency medicine providers regularly care for concussion patients and value their role in management, they may not have adequate training

or infrastructure to systematically diagnose and manage these patients.

Pediatric and Adolescent Tuberculosis in the United States, 2008–2010

Foreign-born children and adolescents in the United States experience higher tuberculosis (TB) morbidity rates than US-born children and adolescents. Pediatric risk assessment should account for country of birth, contact with a known TB case, or travel to TB-endemic countries.

Our study reports national data on parental/guardian countries of origin and international residence of pediatric patients with TB. Two-thirds of US-born children with TB have international family connections, and many have lived in countries with increased risk for TB acquisition.

Pediatric Tuberculosis at Beijing Children's Hospital: 2002–2010

Pediatric tuberculosis is significant for public health professionals because it is an indicator of the recent transmission of tuberculosis in the community. Data on incidence and clinical features of pediatric tuberculosis from China are scarce.

We conducted this study to describe the patient characteristics, clinical–epidemiological profile, and treatment outcomes for pediatric tuberculosis in a referral hospital setting in China.

Pediatricians' Use of Health Information Technology: A National Survey

Information is limited on adoption of fully functional electronic health records (EHRs) in office-based pediatric practices, such as rates of adoption, barriers to adoption, and features that pediatricians choose.

A nationwide survey of members of the AAP in 2009 found that pediatric adoption of fully functional EHRs lags general adoption. Barriers include financial and productivity concerns, but pediatricians are also concerned about finding systems that meet their specific needs.

Autism After Infection, Febrile Episodes, and Antibiotic Use During Pregnancy: An Exploratory Study

It has been suggested that maternal immune activation during pregnancy is associated with cardinal behaviors of autism in the offspring. Epidemiologic studies have yielded conflicting results concerning the association between any infection during pregnancy and the development of autism.

This population-based cohort study investigated the association between specific common infectious diseases, febrile episodes,

or use of antibiotics during pregnancy by using maternal population-based self-reported data.

Detection of Viruses in Young Children With Fever Without an Apparent Source

Fever without an apparent source is common in children. Currently in the United States, serious bacterial infection is uncommonly the cause. Most cases are assumed to be viral, but the specific viral causes have not been delineated. Antibiotics are frequently prescribed.

By using polymerase chain reaction, we detected pathogenic viruses frequently in children with fever without an apparent source. Adenovirus, human herpesvirus-6, enterovirus, and parechovirus were predominant. Testing of blood had high yield. Better recognition of viral etiologies may help reduce unnecessary antibiotic use.

Patterns and Costs of Health Care Use of Children With Medical Complexity

Children with medical complexity are high users of acute health care, but little is known about their service use across the continuum of care services and in the context of overall health care expenditures.

Although accounting for <1% of the child population, children with medical complexity use almost one-third of all pediatric health care expenditures and make multiple transitions across providers and health care settings.

Parents Smoking in Their Cars With Children Present

Tobacco smoke exposure is associated with increased morbidity in children, and exposure in cars can be particularly intense. The American Academy of Pediatrics policy statement recommends that pediatricians assist families in adopting smoke-free car policies.

In this study, few smoking parents had a strictly enforced smoke-free car policy. Low rates of pediatric health care providers addressing smoking in the car highlights the need for improved pediatric interventions to protect children from tobacco smoke toxins.

Protective Factors Can Mitigate Behavior Problems After Prenatal Cocaine and Other Drug Exposures

Prenatal cocaine exposure is associated with the trajectories of childhood behavior problems. Exposure effects may also be related to maternal use of other substances during pregnancy, and risk factors other than prenatal exposure may augment the detrimental cocaine effects.

The balance between cumulative risk and protective indexes predicts behavior outcomes, independent of prenatal drug exposure. A high protective index even with a high level of risks can mitigate the detrimental effects of drug exposure on behavior problem trajectory.

Identifying Teens at Risk: Developmental Pathways of Online and Offline Sexual Risk Behavior

Today's adolescents increasingly use the Internet to explore their sexual identity. There is public concern that the Internet, because of its accessibility, affordability, and anonymity, stimulates adolescents to engage in online sexual risk behavior (eg, sending sexual images to strangers).

This 4-wave panel study is the first to delineate the typical development of online sexual risk behavior, its relationship with offline sexual risk behavior, and the factors (eg, sensation seeking, family cohesion, life satisfaction, education, online communication) that predict both behaviors.

15-Year Follow-Up of Recurrent "Hypoglycemia" in Preterm Infants

It has been widely thought for the past 20 years that recurrent low blood glucose levels ≤ 2.5 mmol/L (45 mg/dL), even in the absence of any suggestive clinical signs, can harm a preterm infant's long-term development.

This prospective study showed the outcome at 2 and 15 years later for the preterm infants who had a blood glucose level this low in the first 10 days of life did not differ from that of matched controls.

Health Care Provider and Caregiver Preferences Regarding Nasogastric and Intravenous Rehydration

Some children with gastroenteritis fail to respond to oral rehydration. Subsequent interventions are dictated by regional preference. In North America, nasogastric rehydration is rarely administered. Caregiver and health care providers' perspectives regarding its use have not been described previously.

Both caregivers and health care providers would select intravenous rehydration instead of nasogastric rehydration when oral rehydration fails. Greater knowledge mobilization efforts will be required for nasogastric rehydration to be adopted into clinical practice.

Hypothalamic-Pituitary-Adrenal Axis Suppression in Asthmatic School Children

Hypothalamic-pituitary-adrenal axis suppression caused by inhaled corticosteroids is considered rare. Adrenal crisis has

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digest Summary

been described in children treated with high doses of inhaled fluticasone propionate. It was recommended that doses licensed for children should not be exceeded.

Biochemically confirmed hypothalamic-pituitary-adrenal axis dysfunction may occur in two-thirds of children treated with corticosteroids. Suppression may occur at low doses and especially with concomitant nasal steroids. Children with poor adherence or obesity may be less prone to adrenal crisis.

Prevalence of Overweight in Dutch Children With Down Syndrome

Some groups of children are especially prone to develop overweight and obesity. Overweight in children affects their physical and psychological health and shortens life expectancy. Overweight in children with Down syndrome (DS) is attributed to their commonly found comorbidities.

This study provides prevalence rates of overweight and obesity in a nationwide sample of otherwise healthy children with DS. Overweight is observed from young ages in healthy children with DS and those with severe congenital heart defects.

Informed Choice for Newborn Blood Spot Screening in the United Kingdom: A Survey of Parental Perceptions

Newborn screening is often seen as a fait accompli, even in programs that ostensibly proceed on the basis of informed choice and parental consent.

The study reports details of parental understanding, perceived ability to make an informed choice, and the availability of choice together with variables predictive of parental assessments of having made an informed choice.

Differing Attitudes Toward Fetal Care by Pediatric and Maternal-Fetal Medicine Specialists

Pediatric specialists are increasingly involved in prenatal care, particularly for congenital fetal conditions. Questions remain about pediatricians' role in the management of maternal conditions that may affect postnatal health, and the attitudes of obstetric and pediatric specialists around such care.

Obstetric and pediatric specialists' attitudes differ substantially regarding pediatricians' role in providing consultation for maternal conditions that may affect a child's health postnatally, and regarding whether court authorization may be appropriate when a woman refuses certain treatment recommendations.

Predictors of Persistence After a Positive Depression Screen Among Adolescents

Adolescents have high placebo response rates in depression treatment trials. Screening for depression will likely detect

youth with a broad range of symptom severity, including some who would benefit from watchful waiting but might not require active treatment.

The strongest predictors of symptom persistence are depressive symptom severity at presentation and continued symptoms on repeat screening 6 weeks later. These results provide important information for the development of postscreening management protocols in the primary care setting.

A Randomized Placebo-Controlled Trial of Massage Therapy on the Immune System of Preterm Infants

Stressful events adversely affect the immune system, particularly the natural killer (NK) cells. Infants in the NICUs are exposed to stressful stimuli. The effect of massage therapy on the immune system of preterm infants has not been investigated.

This randomized placebo-controlled study found daily massage performed in stable preterm infants for a minimum of 5 days was associated with an increase in NK cell cytotoxicity despite lower absolute NK cell numbers compared with controls.

Health-Related Quality of Life in Children and Adolescents With Duchenne Muscular Dystrophy

Medical advances have prolonged life for children and adolescents with Duchenne muscular dystrophy (DMD), the most common inherited pediatric neuromuscular disorder. Children with this progressive disease surviving to adulthood still face significant threats to their quality of life.

Self-reported psychosocial quality of life was impaired in a significant number (57%) of boys with DMD, unrelated to their need for mobility aids. Concordance between the perceptions of parents and their sons related to psychosocial functioning was fair to poor.

Impact of a Third Dose of Measles-Mumps-Rubella Vaccine on a Mumps Outbreak

Mumps outbreaks continue to occur among unvaccinated and highly vaccinated populations. In highly vaccinated populations, options for outbreak control are limited. No previous study has documented the impact of a third measles-mumps-rubella (MMR) vaccine dose on a mumps outbreak.

Our study assessed the use of a third MMR vaccine dose for mumps outbreak control in a setting with preexisting high 2-dose vaccine coverage. The findings suggest a potential role of MMR vaccine for outbreak control in such limited settings.

Single *ABCA3* Mutations Increase Risk for Neonatal Respiratory Distress Syndrome

Neonatal respiratory distress syndrome is the most common respiratory cause of mortality and morbidity among US infants aged <1 year. Although neonatal respiratory distress syndrome is a heritable disorder, common genetic variants do not fully explain disease heritability.

Single *ABCA3* mutations are overrepresented among term and late preterm (≥ 34 weeks' gestation) European-descent infants with RDS. Although *ABCA3* mutations are individually rare, they are collectively common in the European- and African-descent general population, present in ~4% of individuals.

The Globalization of Pediatric Clinical Trials

There is concern about the potential exploitation of children who are enrolled into clinical trials in developing and transition countries. Previous studies of globalization have only examined pediatric drug trials, and only 1 study has provided patient-level data by country.

The involvement of developing and transition countries depends on the product or indication under investigation and is greater for vaccines than for drugs or biologicals. Compared with our previous analysis, involvement of these countries in pediatric drug development has decreased.

Vaccination Coverage Among American Indian and Alaska Native Children, 2006–2010

Disparities in vaccination coverage between American Indian/Alaska Native and white children previously existed between 2001 and 2004 but were not present in 2005.

This study updates a previous study by analyzing data through 2010 and found that these gains have been maintained.

The Effect of an Osmotic Contrast Agent on Complete Meconium Evacuation in Preterm Infants

Delayed meconium passage impairs gastrointestinal function in premature infants. No intervention has been identified that accelerates meconium passage sufficiently. Gastrografin is an osmotic contrast agent used for radiologic examination of the bowel or for conservative treatment of uncomplicated meconium ileus.

Gastrografin did not accelerate complete meconium evacuation but stimulated gastrointestinal motility in a randomized, placebo-controlled trial in premature infants. Application shortened the time to full enteral feedings and hospital stay but was associated with necrotizing enterocolitis as a possible adverse event.

Expected Body Weight in Adolescents: Comparison Between Weight-for-Stature and BMI Methods

In adolescents with eating disorders, percent expected body weight (EBW) is used for diagnosis and to make clinical decisions. The assumption is that the weight-for-stature (WFS) and BMI methods of determining EBW are equivalent, but that may not be true.

This study demonstrates that EBW_{WFS} is ~3.5% higher than EBW_{BMI} . Differences are most pronounced at extremes of height. Compared with the EBW_{WFS} method, sensitivity of EBW_{BMI} to detect those <75% EBW is low.

Theoretical Breast Cancer Induction Risk From Thoracic Spine CT in Female Pediatric Trauma Patients

High doses of radiation have been linked to cancer induction in irradiated populations such as atomic bomb survivors. Medical imaging directs significant radiation doses to human tissues. Epidemiological studies have demonstrated that children are more sensitive to radiation than adults.

The link between cancer induction from moderate radiation doses such as diagnostic imaging is controversial. This study uses Food and Drug Administration–accepted formulas to calculate theoretical risk of breast cancer induction in female pediatric trauma patients receiving diagnostic imaging of the thoracic spine.

Cost-Effectiveness of an Injury and Drowning Prevention Program in Bangladesh

Drowning is a leading cause of death for children in low- and middle-income countries. However, few childhood mortality reduction programs target drowning because of a lack of evidence on costs and effectiveness of these interventions.

This study presents the cost-effectiveness results of a low-cost injury and drowning prevention program in Bangladesh. We show that child care centers and swimming lessons are highly cost-effective interventions that could be scaled to other countries.

Cerebral Palsy and Neonatal Death in Term Singletons Born Small for Gestational Age

Children born small for gestational age (SGA) have increased risk of perinatal morbidity and mortality, neonatal death, and cerebral palsy (CP). Causes of SGA, such as congenital malformations, intrauterine infections, and preeclampsia, are also risk factors for the same outcomes.

In 90% of singletons born SGA, CP is apparently of prenatal origin. Low proportions of intrapartum events leading to CP

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digest Summary

could not be fully explained by a higher neonatal mortality rate in SGA than in non-SGA children.

Neurodevelopmental Burden at Age 5 Years in Patients With Univentricular Heart

With increasing survival rates, there is growing interest in long-term quality of life among patients with univentricular heart

defects, and neurodevelopmental deficits play a major role in adverse outcome.

Although median cognitive performance was within normal limits, major neurodevelopmental impairment was found in one-fourth, and minor neurologic dysfunction in almost half of patients. Brain MRI showed mostly ischemic findings of different degrees in the majority of patients.

See the table of contents of this issue to learn more about these articles.

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