THE IHS PRIMARY CARE PROVIDER

A journal for health professionals working with American Indians and Alaska Natives

January 2006 **Volume 31 Number 1**

Impact of School Bus Accidents on a Rural Trauma System

Syed H. Ahmed, MD, FRCS, Assistant Professor of Surgery, Texas Tech Health Sciences Center, Amarillo, Texas (Formerly at Sage Memorial Hospital, Ganado, Arizona), and Felician Stancioiu, MD, Sage Memorial Hospital

Introduction

School bus transportation is one of the safest forms of transportation in the United States. Every year nearly 394,000 public school buses travel approximately 4.3 billion miles to transport 23.5 million children to and from school and school related activities.[1] Since 1984, 11 passengers per year have died in school bus crashes.[2]

We report four school bus crashes in less than four years in the catchment area of a rural hospital on an Indian reservation and their impact on that hospital.

Material and Methods

The Emergency Room at Sage Memorial Hospital in Ganado, Arizona (SMH ER) maintains a hand written register of all visits to the ER. This hospital provides care to residents of the Navajo Nation in Apache County. The record was searched from January 2000 to December 2004. Four incidents of school bus crashes recorded during this period were identified from this register. In addition, we searched the Hospital Information System – Meditech software and networking – for both validation and for information that was not available in the patients' charts. The individual charts were then examined in detail for patients' weight, airway, pulse, systolic blood pressure, central nervous system (CNS) status, presence of fractures, wounds, and various other findings. The pre-hospital care report from the Emergency Medical Services (EMS) was also considered for the circumstances surrounding each accident. The information gathered was tabulated using Microsoft Excel, and each patient was assigned a Pediatric Trauma Score (PTS), which is a trauma scoring tool for use in evaluating the severity of injury in the pediatric patient. The parameters considered in the PTS and the scoring guidelines are documented in Table 1 (see next page).[3] Statistical evaluation of data was performed with the descriptive statistical tools available in Microsoft Excel.

Results

The four school bus accidents encountered between January 2000 and December 2004 involved a total of 99 passengers and drivers, divided as follows: 45 patients were seen on January 31, 2000, 16 patients on November 3, 2000, 15 patients on January 19, 2001, and 13 on April 1, 2003.

In this Issue...

1 Impact of School Bus Accidents on a Rural Trauma System
6 OB/GYN Chief Clinical Consultant's Corner Digest
12 The 2006 PA/APN Continuing Education Seminar
13 IHS Child Health Notes
15 Correction
16 Abstract Not Enough? Want the Full Text? Try the Electronic Document Delivery Service
17 Clinical Update on Substance Abuse and Dependency
17 The 11th Annual Elders Issue
18 Meetings of Interest
20 Executive Leadership Development Program
21 Position Vacancies

Table 1. Pediatric Trauma Score

Pediatric Trauma Score				
Components	+2	+1	-1	Score
Weight	> 20 kg (44 lbs.)	10-20 kg (22-44 lbs.)	< 10 kg (22 lbs.)	
Airway	Patent[1]	Maintainable[2]	Unmaintainable[3]	
Systolic B/P Pulses	> 90 mm Hg Radial	50-90 mm Hg Carotid	< 50 mm Hg Nonpalpable	
CNS	Awake	+ LOC¤	Unresponsive	
Fractures	None	Closed or suspected	Multiple closed or open	
Wounds	None	Minor*	Major, penetrating or burns[a]	
Total Score				-6 to 12, decreases with severity of condition
9-12 - Minor trauma 6-8 - Potentially life threatening 0-5 - Life threatening < 0 - Usually fatal				
[1] No assistance required. [2] Protected by patient, but requires continuous monitoring for changes, may require positioning. [3] Requires airway adjuncts NPA, OPA and ET or suctioning. ¤ Responds to voice, pain, or temporary loss of consciousness noted. * Abrasions, minor lacerations, burns < 10% and not involving hands, face, feet, or genitalia. [a] Penetrating, major avulsions, lacerations, burns > 10% or involving hands, face, feet of genitalia.				

Accident 1 happened on January 1, 2000. It involved frontal collision with a motor vehicle (pickup truck) in icy road conditions; collision speed was estimated at around 45 mph. There were two patients with PTS less than 12 and about 29% of patients had no complaints. The number of patients involved was 45. There were serious injuries among the occupants of the pickup truck (left acetabular comminuted fracture, right anterior shoulder dislocation, left anterior hip dislocation, etc.). Reviewing the EMS notes, it is worth mentioning the logistical problems encountered at the time: there were not enough backboards to properly immobilize all patients whose injuries or symptoms suggested possible spinal cord injury, and there were problems transporting all those patients from the accident site to the closest Emergency Room. Those problems were compounded by the simultaneous occurrence of other car accidents, which were similarly related to the icy road conditions. There were four more patients from a nearby accident site seen in the SMH ER at the same time as the school bus crash. Those patients were not included in our analysis, although they presented with the most severe trauma.

Accident 2 was by far the most severe accident recorded during the five year period. It took place in November 2000 and involved a rollover; this crash was also investigated by NTSB. SMH ER received only a portion of the school bus passengers (15 of 37). Of the patients brought to SMH, a 26-year-old was treated for sternum fracture and head contusion, and a 16-year-old female received treatment for a fractured right clavicle with displacement. Patients with more severe wounds were transported to the next closest hospital, the Chinle IHS Hospital. One patient was flown in serious condition to Albuquerque, and one fatality was recorded at the scene of the accident.[5]

The severity of injuries and need for extensive evaluation of the occupants of this school bus were reflected in the total time spent for initial evaluations and time per initial patient evaluation (10 minutes), which was the highest for any of the four accidents (Table 2). The first patient was triaged at 11:45, the last at 14:15. Also, there were virtually no patients without complaints.

Table 2. Patients from school bus crashes in Sage Memorial Hospital Emergency Room, 01/2000 to 12/2003

	01/31/2000	11/3/2000	1/19/2001	4/1/2003
Total patients/pediatrics	45/41	15/13	15/14	13/12
Passenger Mean Age	13.5	17.6	11.2	17
Females: Number	27	10	4	11
Males: Number	28	5	11	2
Time in ER (minutes)	165	150	75	38
Time per patient	3.67	10	5	2.92
PTS 12	39	11	14	11
PTS 11	2	2	0	1
PTS < 10	0	0	0	0
Mean PTS	11.95	11.84	12	11.91
PTS <12; % Total	4.87%	15.84%	0%	8.33%
"No complaints/no pain"	13	0	1	10
% "nc/np" of total patients	28.9%	0%	6.7%	76.9%
Type of impact	Frontal Coll	Rollover	Side Impact	Frontal Coll
Category	1	2	0	0

PTS: Pediatric Trauma Score, number of patients with score of 12, score 11, or score 10 or less; **"No complaints/pain":** number of patients who had no symptoms at triage and examination**; % "Nc/np" of total patients**: percentage of patients who had no symptoms at triage and examination from total patients; Frontal Coll: frontal collision

Accident 3, occurring January 19, 2001, involved a side impact: as the bus pulled from the school into the main road it was hit by a midsize sedan; road conditions also seemed to play a role in this accident. It is important to note that while this was the accident in which the bus was moving at the slowest speed (less than 10 mph), it also had the second highest number of complaints (after the rollover accident), and also the time per initial evaluation of patients was the second-highest. Those observations underscore the fact that school bus occupants are offered little protection in side impacts.

Accident 4 happened in April 2003. It involved a frontal collision on the highway at relatively slow speed. The school bus hit a cow; apparently the driver had time to brake and probably the speed at impact was less than 25 mph. This was the most benign of all four accidents; more than three quarters of bus occupants had no complaints.

A common trait of these accidents is the road condition in this rural area: three of the crashes occurred in the cold season and involved icy roads or fog, and the one that happened on April 1st (the most benign) involved a specific occurrence that is not common to urban schools, namely a collision between a school bus and a hapless cow. The financial impact of these incidents on the hospital resources is shown in Table 3.

Table 3. Financial impactof crashes on the hospital

Date of crash	Place	Road conditions	Charges $	Reimbursed	Loss to Hospital
January 31, 2000	AZ Highway 264, MP 457	Icy road		1,873.79	10,753.44
November 03, 2000	AZ Hwy 191 N	Fog	19,799.01	15,805.30	3,993.71
January 19, 2001	AZ Hwy 264, MP 447	Icy Road	7,385.08	1,446.73	5,938.35
April 1st, 2003	AZ Hwy 15	Good	5,838.97	1,858.08	3,980.89

One significant challenge for EMS in such events in this rural area is transportation from the accident site to the nearest ER. There were not enough ambulances in the area to transport all the children on ambulances; in 3 out of 4 accidents the bus passengers were brought to the hospital on the school bus.

To deal efficiently with these situations – large numbers of patients brought simultaneously to the ER – SMH has in effect a "code green" or "disaster code" policy. This is called when the ER staff will be potentially overwhelmed by the number or severity of trauma patients brought to SMH ER. During this code, any and all medical staff on the hospital campus are expected to help in the ER (including those from Outpatient Clinic, Walk-in Clinic, and Diabetes Clinic, and any medical staff who are on the campus but off duty). This explains the fact that even in the most benign of those crashes, the patients were examined by four physicians, and triage took place in the Walk-in Clinic as well as in the Emergency Department. The Outpatient Department (OPD) was converted into an ER as well; the children who were found to have low probability for significant injury were sent to one wing of the OPD. This was done because the small Emergency Room did not have the capacity to hold a large number of patients.

Besides the physical aspects of the trauma involved in those accidents, another finding related to the school bus crashes was psychological trauma. One student who was involved in a motor vehicle accident with his family just before the school bus crash was seen later in the clinic for psychological symptoms suggesting post traumatic stress disorder (PTSD). It is also possible that this condition may have been under-diagnosed in this patient cohort, due to lack of follow-up. According to a British study,[6] the occurrence of PTSD tends to be high; about 30% of children involved in road traffic accidents were found to suffer from PTSD.

One unique situation was that of a high-school athlete who was pursuing a scholarship and who complained of back pain; although the condition did not appear to be of new onset with the accident, the parent of this minor insisted that at least a radiograph be done, which was negative.

Finally, there are requests for release of medical records to attorneys in the charts of three students, even though the school bus crash in which they were involved was the most benign in terms of physical injuries to the passengers.

Discussion

Safety of school bus transportation is a controversial subject. A review of the most recent data presented by NTSB on school bus crashes[2] reveals that 50% of fatalities involve rollovers. Compartmentalization, which is the current protection mechanism employed in large school buses, works very well for front and rear collisions but does not offer any protection during rollovers.[4] This means that in half of the most serious accidents involving school buses, we know that kids will be endangered.

It has been strongly suggested that the use of safety belts in school buses can be a major improvement for passenger safety, particularly in rollovers[6-9]; however NHTSA has found that the usefulness of safety belts on large school buses cannot be proved by using the available computer simulations.[2] Comparing the safety record of school buses in states that already have mandated use of safety belts (California, New York) with those who have not (most) may give a better picture about the usefulness of safety belts in actual crashes that involve rollovers; because of the complexity and the volume of the data, we consider that this should be an entirely separate analysis and subsequent paper.

Beyond the current argument (safety belt or not) the need for changes in bus design was also the conclusion of a recent paper in *The Canadian Journal of Surgery,*[7] which analyzed a school bus rollover involving 13 students with one fatality. The authors' recommendation was that in the absence of seat belts, extra padding to the sides of the bus, window headers, and paneling may reduce injuries to the head, neck, and spine – the most common types if injuries seen in rollover accidents.[10]

Our data suggest that even with relatively minor crashes, the consequences for local hospitals, EMS, police, and school are significant. Triage, transportation, medical examination, x-rays, and other modalities could overwhelm local resources and the ability to respond to other emergencies. For example, the January 2000 bus crash coincided with at least two other vehicle crashes and created a situation in which the EMS and Fire Department personnel ran into significant logistical problems. Furthermore, PTSD or physical injuries that may crush the hopes of youths, and ensuing lawsuits, are strong arguments for trying to avoid school bus accidents.

Prevention efforts can have multiple targets and can be done in parallel. Programs that provide additional training for the school bus operators for dealing with special road conditions and the specific road handling of school buses can be initiated. Increasing the time of transit (allotting more time for routes) so that speeding and dangerous shortcuts are avoided may also be helpful. Improving road conditions, especially with timely action during snowfalls is also a proven intervention. To compensate for the lower transit speed and avoiding bottlenecks in traffic, school buses might be required to stop only outside traffic lanes, and the bus operator might escort the student to the sidewalk or nearest refuge, and then continue the trip. However, because human error is a common contributor to traffic accidents, perhaps the most effective prevention measures can be directed to improving the design of the school bus.

Reducing the rollover risk is achieved most effectively by either lowering the vehicle center of gravity (VCG) and/or equipping the buses with electronic speed limiters that can impose a top speed of 45 or 50 mph, especially in the cold season. More sophisticated systems may involve accelerometers that electronically correlate the speed of each wheel with lateral and forward acceleration and apply braking independently on each wheel to minimize the risk for rollover.

Lowering the VCG can be achieved by changing the bus frame from the current square, planar shape, to a configuration that will align the lower level of the frame with the lower level of the rear axle. Currently the frame sits on the rear axle; by "housing" the rear axle in a frame "pocket," the VCG can be lowered by 6-10 inches without decreasing ground clearance, which may significantly improve bus handling. The bus frame can be further improved by making it wider and raising its lateral sides, which will give added protection in side impacts. Furthermore, a wider track (lateral distance between wheels) can reduce the rollover risk.

The other major component of the bus, the passenger compartment or "box," can be improved by making it from a tubular steel frame with attached panels (which can be opened by pushing or sliding in case of immersion of vehicle in water). A reinforced floor and tubular frame can give added strength in case of rollover. A decrease by 10 – 12 inches in box height will increase the box strength, as well as decrease the force of impact between the child's body and the box ceiling during a rollover (by reducing the travel before impact in some situations). To reduce the ejection danger, the bus windows can have an "X" design.

Finally, for crashes involving side impact, besides the raised frame sides and tubular frame structure for the box, it may be helpful to install two smaller aisles for egress (one on each side of the bus) with all seats in the middle instead of the single aisle in the middle of the vehicle, which is the current design.

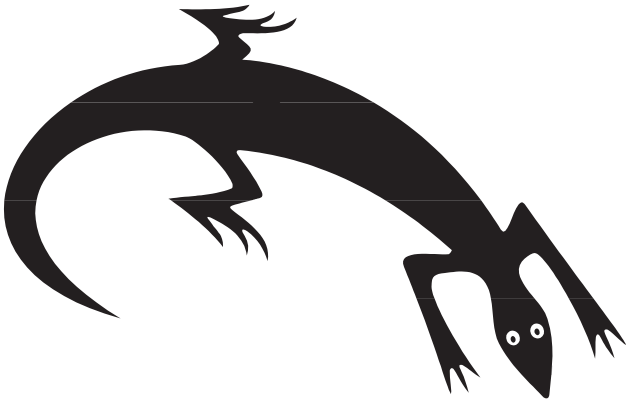
Arizona law does not require seat belts in school buses. This can be a safety feature in areas where the frequency of accidents seems to be high.

Conclusion

School buses are one of the safest methods of transportation. However, in this part of rural Arizona, the number of accidents seems to be very high. This may have been due to poor road and weather conditions. Seat belts in school buses might prevent some of the injuries. Further research is needed to improve safety of school bus transportation on Indian reservations.

References

1. National Transportation Safety Board. Child Passenger Safety. Available at: *http://www.ntsb.gov/Surface/highway/childseat.htm*. Accessed 8/12/05.
2. NTSB Public Meeting of September 21, 1999 – Abstract of Final Report. Available at: *http://www.ncsbs.org/ntsbreport1_92199.htm*. Accessed 8/12/05.
3. Pediatric Trauma Score. Available at: *http://w3.ouhsc.edu/emsc/pts_gcs.htm*. Accessed 8/12/05
4. Cullen David. Seat Belt on School Bus NTSB Report Guest Editorial. Available at: *http://www.ncsbs.org/ntsbguest_92199.htm*. Accessed 8/12/05.
5. National Coalition for School Bus Safety. Crash Reports 2000: Arizona School Bus Flips Over, 1 Dead. Available at: *http://www.ncsbs.org/crashreports/crashreports15.htm*. Accessed 8/12/05.
6. Stallard P, Velleman R, Baldwin S. Prospective study of post-traumatic stress disorder in children involved in road traffic accidents. *BMJ*. 1998;317:1619-1623.
7. Lapner PC, Nguyen D, Letts M. Analysis of a school bus collision: mechanism of injury in the unrestrained child. *Can J Surg*. 2003 Aug;46(4):269-72.
8. Reilly EA. School bus safety: issues and controversy. *J Pediatr Health Care*. 1995 May-Jun;9(3):145-8.
9. School Bus Safety. *Ann Emerg Med.* 2000 Aug;36(2):179-80.
10. Sibbald B. MDs call for new safety features after death in school bus crash. *CMAJ*. 2003 October; 169(9):951-2.



Clinical Consultant's Newsletter (Volume 3, No. 21, December 2005) available on the Internet at http://www.ihs.gov/MedicalPrograms/MCH/M/OBGYN01.cfm. *We wanted to make our readers aware of this resource, and encourage those who are interested to use it on a regular basis. You may also subscribe to a listserv to receive reminders about this service. If you have any questions, please contact Dr. Neil Murphy, Chief Clinical Consultant in Obstetrics and Gynecology, at* nmurphy@scf.cc.

OB/GYN Chief Clinical Consultant's Corner Digest

Abstract of the Month

Routine screening for protein and glucose at each prenatal should be abandoned.

Objective: More than 22 million prenatal visits occur in the US each year. Each pregnant woman averages seven visits. Most include urine testing for glucose and protein to screen for gestational diabetes and preeclampsia. Is there sufficient scientific evidence to support this routine practice?

Methods: We searched Medline (1966 - 2004), the Cochrane review, AHRQ National Guideline Clearinghouse, the Institute for Clinical Systems Improvement, and Google, searching for studies on proteinuria or glycosuria in pregnancy. The reference list of each article reviewed was examined for additional studies, but none were identified. We found six studies investigating glycosuria as a predictor for gestational diabetes mellitus, or proteinuria as a predictor for preeclampsia (one examined both). Because every study used different dipstick methods for determining results, or definitions of abnormal, each was evaluated separately.

Results: Glycosuria is found at some point in about 50% of pregnant women; it is believed to be due to an increased glomerular filtration rate. The renal threshold for glucose is highly variable and may lead to a positive test result for glycosuria despite normal blood sugar. High intake of ascorbic acid or high urinary ketone levels may result in false-positive results. Four published studies assessed the value of glycosuria as a screen for gestational diabetes. All used urine dipsticks. Three of the four most likely overestimate the sensitivity of glycosuria for predicting gestational diabetes.

Conclusions: Routine dipstick screening for protein and glucose at each prenatal visit should be abandoned. Women who are known or perceived to be at high risk for gestational diabetes or preeclampsia should continue to be monitored closely at the discretion of their clinician.

Alto WA. No need for glycosuria/proteinuria screen in pregnant women. *J Fam Pract.* 2005 Nov;54(11):978-83.

OB/GYN CCC Editorial comment

Routine screening at each prenatal visit should be abandoned. Routine urine screening is both insensitive and non-specific in screening for pre-eclampsia, diabetes, and asymptomatic UTI. Routine prenatal urine is a needless drain on clinic resources and is not a value added procedure.

ACOG does not recommend routine urine dipstick screening because it is not "reliable and cost-effective" (ACOG Practice Bulletin No. 33). Are there effective methods for identifying women at risk for preeclampsia? No single screening test for preeclampsia has been found to be reliable and cost-effective. Uric acid is one of the most commonly used tests but it has a positive predictive value of only 33% and has not proved useful in predicting preeclampsia. Doppler velocimetry of the uterine arteries was reported not to be a useful test for screening pregnant women at low risk for preeclampsia.

The following recommendations are based on limited or inconsistent scientific evidence (Level B): Practitioners should be aware that although various laboratory tests may be useful in the management of women with preeclampsia, to date there is no reliable predictive test for preeclampsia.

Screening for preeclampsia. Screening for preeclampsia is recommended for all pregnant women at the first prenatal visit and throughout the remainder of pregnancy. To screen for preeclampsia, measure an upright sitting blood pressure after a 10 minute rest. The BP should be repeated in a similar manner 4 - 6 hours later to confirm the diagnosis.

Gestational diabetes. Although measuring urine glucose may be much easier than measuring blood glucose, it has potential errors that limit its accuracy as a reflection of glycemic control and is rarely used. Detection of glucose on a semi-quantitative urine dipstick (anything regarded as trace positive or more) or Clinitest tablets is a fairly specific but insensitive means of screening for type 2 diabetes. The high rate of false-negative results suggests that the urine dipstick is not adequate as a screening test.

Asymptomatic urine infections. Screening for asymptomatic bacteriuria is standard practice at the *first* prenatal visit. Rescreening is generally not performed in low risk women, but can be considered in women at high risk for infection (e.g., presence of urinary tract anomalies, hemoglobin S, or preterm labor).

What should you perform urinalysis in pregnancy for? It is reasonable to perform prenatal urine testing in these cases:

- BP greater then 140/90 mm Hg or mean arterial pressure greater than 105 mm Hg
- Symptoms of preeclampsia
- Multiple gestation
- Symptoms of UTI
- Chronic hypertension by history or currently on hypertension medication

From Your Colleagues: Bonnie Bishop-Stark, ANMC

How do you know when you have a false positive HIV test in pregnancy? Bonnie asked that question to the ANMC HIV Program Director.

Q. I am requesting your input regarding a prenatal patient who has a positive HIV screen and positive Western blot (weakly positive P55) and a HIV viral load of <75. The first test results were done at 18 weeks and were repeated at 23 weeks. We are still waiting on the Western blot repeat but she continues to be HIV screen positive and her viral load continues <75. The patient states her partner has tested negative.

A. Here is an explanation for what we see on Western Blot: The pattern of antibodies to the different viral protein bands provides useful diagnostic information. Antibodies to the HIV-1 major group specific antigen (Gag) protein, p24, and its precursor, p55, are the first to appear, but their levels decline during the later course of infection. There can be cross-reacting alloantibodies from pregnancy. Antibodies to the envelope (Env) precursor protein, gp160, and the final Env proteins, gp120 and gp41, are present throughout the course of disease. Antibodies to the polymerase (Pol) gene products — p31, p51, and p66 — are also used.

To diagnose HIV, the Western Blot needs to have a combination of p24 and p31 with gp41 or gp 120/160. So, this is likely a false positive, especially having been unchanged over a one-month period with an undetectable viral load. Reassurance and a recheck at the beginning of the third trimester and six months thereafter would be a fine plan.

Hot Topics: Obstetrics

Paroxetine's pregnancy category has been changed from C to D (FDA MedWatch, Paroxetine HCl: Paxil and generic paroxetine.

The FDA has determined that exposure to paroxetine in the first trimester of pregnancy may increase the risk for congenital malformations, particularly cardiac malformations. At the FDA's request, the manufacturer has changed paroxetine's pregnancy category from C to D and added new data and recommendations to the WARNINGS section of paroxetine's prescribing information. FDA is awaiting final results from recent studies and accruing additional data related to the use of paroxetine in pregnancy in order to better characterize the risk for congenital malformations associated with paroxetine.

Physicians who are caring for women receiving paroxetine should alert them to the potential risk to the fetus if they plan to become pregnant or are currently in their first trimester of pregnancy. Discontinuing paroxetine therapy should be considered for these patients. Women who are pregnant or planning a pregnancy, and who are currently taking paroxetine should consult with their physician about whether to continue taking it. Women should not stop the drug without discussing the best way to do that with their physician.

There are two ways to approach this: 1) patient notification phase and 2) patient management phase (cognitive behavioral therapy, other medications). Please see the online version for complete details.

Do you work with a low HIV prevalence population? Here is a strategy to keep it that way.

Conclusion: In a low prevalence population, the universal use of Oraquick rapid testing is cost-effective because of the low rate of false-positive results, thus preventing the emotional and economic costs of unnecessary treatment for human immunodeficiency virus to the new mother and her family.

Doyle NM, et al. Rapid HIV versus enzyme-linked immunosorbent assay screening in a low-risk Mexican-American population presenting in labor: a cost-effectiveness analysis. *Am J Obstet Gynecol.* 2005 Sep;193(3 Pt 2):1280-5.

OB/GYN CCC Editorial comment

HIV screening is a routine test in pregnancy. It is initially performed in an "opt out" mode at the first prenatal visit. No additional written consent is necessary, but it is a critical "teachable moment" during which HIV patient education should be delivered. If the patient is unable to obtain HIV screening at that time and presents in labor without screening, then HIV screening should be routinely performed at that time. In selected cases, high risk individuals should be rescreened in labor. Depending on the logistics of your facility, rapid testing may be the best choice.

Gynecology

Urinary incontinence: familial association stronger than that of vaginal delivery.

Conclusion: Vaginal birth does not seem to be associated with urinary incontinence in postmenopausal women. Considering the high concordance in continence status between sister pairs, and considering that the majority of parous women are continent, an underlying familial predisposition toward the development of urinary incontinence may be present. LEVEL OF EVIDENCE: II-2.

Buchsbaum GM, et al. Urinary incontinence in nulliparous women and their parous sisters. *Obstet Gynecol.* 2005 Dec;106(6):1253-8.

Handle abnormal Pap smears differently in adolescents.

Despite the high incidence of HPV infection in women less than 21 years of age, only a fraction of HPV positive adolescents develop cytologic abnormalities. Most infections

are transient, e.g., 8 – 18 months. Use ablative techniques sparingly in adolescents.

"Adolescents with ASC who are HPV positive or with LSIL results may be monitored with repeat cytology tests at 6 and 12 months or a single HPV test at 12 months, with colposcopy for a cytology result of ASC or higher-grade abnormality or a positive HPV test result." Some helpful resources from ACOG and ASCCP are available online.

Child Health

Guidelines for identifying and referring persons with fetal alcohol syndrome.

This report summarizes the diagnostic guidelines drafted by the scientific working group, provides recommendations for when and how to refer a person suspected of having problems related to prenatal alcohol exposure, and assesses existing practices for creating supportive environments that might prevent long-term adverse consequences associated with FAS. The guidelines were created on the basis of a review of scientific evidence, clinical expertise, and the experiences of families affected by FAS regarding the physical and neuropsychologic features of FAS and the medical, educational, and social services needed by persons with FAS and their families. The guidelines are intended to facilitate early identification of persons affected by prenatal exposure to alcohol so they and their families can receive services that enable them to achieve healthy lives and reach their full potential. This report also includes recommendations to enhance identification of and intervention for women at risk for alcohol-exposed pregnancies

Chronic disease and Illness

Quick assessment of literacy in primary care: the newest vital sign.

Results. The Newest Vital Sign (NVS), is a nutrition label that is accompanied by six questions and requires three minutes for administration. It is reliable (Cronbach >0.76 in English and 0.69 in Spanish) and correlates with the TOFHLA. Area under the ROC curve is 0.88 for English and 0.72 for Spanish versions. Patients with more than four correct responses are unlikely to have low literacy, whereas fewer than four correct answers indicate the possibility of limited literacy.

Conclusion. The Quick Assessment of Literacy in Primary Care, the newest vital sign, is suitable for use as a quick screening test for limited literacy in primary health care settings. Weiss B, et al. Quick assessment of literacy in primary care: the newest vital sign. *Annals of Family Medicine*. 3:514-522 (2005).

Features: ACOG

Inappropriate use of the terms fetal distress and birth asphyxia.

Abstract: The Committee on Obstetric Practice is concerned about the continued use of the term "fetal distress" as an antepartum or intrapartum diagnosis and the term "birth asphyxia" as a neonatal diagnosis. The Committee reaffirms that the term fetal distress is imprecise and nonspecific. The communication between clinicians caring for the woman and those caring for her neonate is best served by replacing the term fetal distress with "nonreassuring fetal status," followed by a further description of findings (e.g., repetitive variable decelerations, fetal tachycardia or bradycardia, late decelerations, or low biophysical profile). Also, the term birth asphyxia is a nonspecific diagnosis and should not be used.

Inappropriate use of the terms fetal distress and birth asphyxia. ACOG Committee Opinion No. 326. American College of Obstetricians and Gynecol-ogists. *Obstet Gynecol*. 2005;106:1469–70.

Breastfeeding

There is a 15% reduction in the risk of diabetes for every year of lactation.

Together with clinical evidence of improved glucose homeostasis in lactating women, these data suggest that lactation may reduce the risk of type 2 diabetes in young and middle-aged women, the investigators concluded.

Stuebe AM, et al. Duration of lactation and incidence of type 2 diabetes. *JAMA*. 2005;294:2601-2610.

Medical Mystery Tour

Chief complaint: "I feel really cold and my side hurts, plus I am shaking all over."

The patient was a 21-year-old G2P1001 who presented to her community health aide (CHA) in a rural, Alaskan village complaining of nausea, vomiting, shaking chills, and contractions every two minutes. The patient was 37 3/7 weeks EGA by a 32 week ultrasound. Her prenatal history was significant for 3 total prenatal visits, anemia with hemoglobin 10.2 g/dL, and a previous 10 lb. 2 oz term NSVD. The patient had a glucose challenge test result of 129 mg/dL.

The CHA recorded the temperature to be 99.2 F and 100.8 F on repeat. The patient was tender in her right flank and abdomen. The fetal heart rate was in the 140s and the patient was noted to have a negative urine dipstick, except for a trace of protein. The CHA determined that the patient had a viral syndrome and preterm contractions. The CHA consulted a provider at a regional hospital by phone. The patient was then treated with prochlorperazine intramuscularly, terbutatline subcutaneously, Tylenol by mouth, and in travenous fluids. A transport was arranged on the next regularly scheduled mail plane.

Upon arrival at the Emergency Department, the patient complained of fever and chills and abdominal pain, worse on the right. The patient's temperature was recorded as 103.6 F, pulse 122 - 136 bpm, and the FHR was in the 160 – 210 bpm range. Examination revealed right abdominal tenderness, suprapubic tenderness, and mid-epigastric tenderness. There was guarding, but no rebound pain. The cervix was 1 cm

dilated, thick, and – 3 station. The hemoglobin was 6.1 g/dL, and white blood cell count 4,000/microL. Urinalysis showed specific gravity 1.025, WBC 10 - 30 hpf, positive leukocyte esterase, bacteria 1+, 3+ ketones, epithethial cells 1-5 hpf, trace protein, nitrite negative, and negative casts.

The patient was admitted with a diagnosis of pyelonephritis and treated with ceftriaxone 1 gm intravenously. The next morning the patient noted dysuria, a sensation of feeling cold with shaking chills, shortness of breath, chest pain, and right sided abdominal pain. Her temperature was 104.0 F, pulse 150 bpm, BP 138/58, and pulse oximetry 99%. The physical examination was otherwise essentially unchanged.

The hemoglobin was 8.6 g/dL, white blood cell count 3,000 cells/microL, and platelet count 267,000/microL. The electrocardiogram revealed a trigeminal rhythm at 138 bpm and LVH by voltage. Arterial blood gases on two liters by nasal prongs revealed pH 7.43, P02 130, PCO2 17.8, HCO3 11.9 meq/L, and base excess -12. Later that day the laboratory reported a preliminary blood culture result with gram positive cocci in clusters. Gentamicin 140 mg IV and vancomycin 500 mg IV were added to the antibiotic regime.

The patient was subsequently transferred to a tertiary care facility approximately 500 miles away by air ambulance. Upon arrival the patient was afebrile, but had shaking chills. The patient had developed exquisite right flank pain. The physical examination was otherwise essentially unchanged. The cervix was 1 cm dilated, thick, and – 3 station

The referring facility subsequently reported the preliminary positive blood culture as gram negative rods. The patient's gentamicin was changed to 100 mg q 8 hours IV and the vancomycin was stopped. The diagnosis was suspected urosepsis. The admission plan included an order for a renal ultrasound in the morning to rule out perinephric abscess.

Five hours after admission the patient's white blood cell count increased to 26,100 cells/microL and the patient continued to have right flank and right lower quadrant pain. The right flank pain now required intermittent intravenous morphine. The General Surgery Service was consulted.

The General Surgery team concurred that the patient had pyelonephritis with a suspected perinephric abscess. They suggested adding vancomycin back to the regimen because he preliminary positive blood culture at the referring facility had suggested gram positive cocci in clusters, and the organism was still unidentified. There was a significant prevalence of methicillin-resistant *Staphylococcus aureus* in the patient's home region. The General Surgery Service agreed with obtaining a renal ultrasound in the morning.

Is there anything else would you like to do now for this patient diagnosed with urosepsis at 37 weeks EGA? More on this story in the January CCC Corner. If you have questions, contact *nmurphy@scf.cc*.

Midwives Corner: Marsha Tahquechi, GIMC

Liability in triage: EMTALA regulations and common obstetric risks.

The Emergency Medical Treatment and Active Labor Act (EMTALA) affects all clinicians who provide triage care for pregnant women. EMTALA has specific regulations for hospitals relative to women in active labor. Violations can carry stiff penalties. It is critical for clinicians performing obstetric triage to understand the duties and obligations of this law. This article discusses EMTALA and reviews common liability risks in obstetric triage as well as strategies to modify those risks.

Angelini DJ, Mahlmeister LR. Liability in triage: management of EMTALA regulations and common obstetric risks. *J Midwifery Womens Health.* 2005 Nov-Dec;50(6):472-8.

Postpartum hemorrhage is the most common cause of maternal mortality worldwide.

This month's midwife corner presents two reviews from the Cochrane database. One focus is on the use of prophylactic oxytocin for the third stage of labor, and the other reviews active vs. expectant management of the third stage of labor. The literature reviewed found that the active management of labor is superior to expectant management. There is included a joint position statement from the International Confederation of Midwives (ICM) and the International Federation of Gynecologists and Obstetricians (FIGO) on active management of the third stage of labor. Another article from the *Journal of Midwifery and Women's Health* approaches PPH from a global perspective and reviews prevention strategies in low risk settings. Last, but not least, a Cochrane review on placental drainage as part of the management of the third stage of labor shows that there is potentially some benefit to using this technique.

By the way, what does 'controlled cord traction' mean? The controlled cord traction used is relatively constant and firm, but not aggressive. It is not necessarily timed to the increasingly infrequent post partum contractions, but it often can be applied on an every 2 - 3 minutes basis just to give the patient a break (because many times we ask the patient to give a little push while we are doing it).

Patients allocated to the controlled cord traction group had the third stage of labor managed actively. Oxytocin (10 units) was administered intramuscularly during delivery of the anterior shoulder of the baby. In the case of breech vaginal delivery this was given soon after delivery of the baby. The umbilical cord was clamped and cut immediately after delivery of the baby. As soon as the baby was separated and palpation of the uterus through a sterile abdominal towel confirmed that it was contracting firmly, controlled cord traction was commenced (Brandt-Andrews technique). The lower segment of the uterus was grasped between the thumb and index finger, and steady pressure was exerted in an upward and backward

direction. At the same time, the other hand, holding the clamp on the cord, at the level of the introitus started steady traction on the cord in a backward and downward direction, exactly countered by the upward pressure of the hand on the uterus, so that the position of the uterus remained unchanged. The traction was gentle at first and then was slowly increased, the placenta usually being delivered quite easily. Controlled cord traction was repeated every 2 to 3 minutes, if the first attempt was unsuccessful. No fundal pressure was applied to the abdomen even if the placenta failed to deliver by the controlled cord traction method.

Khan GQ, et al. Controlled cord traction versus minimal intervention techniques in delivery of the placenta: a randomized controlled trial. *Am J Obstet Gynecol*. 1997 Oct;177(4):770-4. More resources appear in the online version

Navajo News: Jean Howe, Chinle

MRSA presents new challenges in treating skin and soft-tissue infections, including during pregnancy.

MRSA (Methicillin-Resistant *Staphylococcus aureus*) spread in healthcare settings has been a grave concern for several years and is evidence of our dwindling antibiotic armamentarium. More recently, community-acquired MRSA infections have also become relatively common and may require consideration of alternative antibiotic regimens in some situations. Over the past three months, our rural health care facility has noted a series of cases of MRSA soft tissue infections in pregnant and postpartum patients, most of which were more likely to have been community acquired than nosocomial.

The article by Laibl, et al in the September *Obstetrics and Gynecology* suggests that this experience may soon be rather commonplace. The authors conducted a chart review of pregnant patients diagnosed with MRSA between 1/1/00 and 7/30/04 at Parkland Hospital in Dallas, Texas. They noted two cases in 2000, four in ’01, 11 in ’02, 23 in ’03, and 17 through 7/04. Ninety-six percent of cases were skin and soft tissue infections, with 44% involving extremities, 25% buttocks, and 23% breast/mastitis. Multiple sites were often involved. Eighteen percent of cases were diagnosed in the postpartum period. All isolates were sensitive to trimethoprim-sulfamethoxazole, vancomycin, and rifampin; 98% gentamicin sensitivity and 84% levofloxacin sensitivity were also noted. They conclude that recurrent skin abscesses in pregnancy should prompt an investigation for MRSA.

Another article in the March *Annals of Emergency Medicine* described a prospective observational study of a high-risk (non-pregnant) population presenting to an urban ER. While their findings that 51% of skin abscesses were MRSA-colonized may not be generalizable to other populations, it again raises interesting questions about antibiotic choices. They found MRSA sensitivities to trimethoprim-sulfamethoxazole (100%), clindamycin (94%), tetracycline (86%), and levofloxacin (57%). This article and the accompanying editorial suggest that a trimethoprim-sulfamethoxazole-based regimen may be appropriate for skin abscesses in some populations but also raise concern that *Streptococcus pyogenes* not be overlooked as another potential virulent pathogen and recommend that cellulitis without abscess treatment include cephalexin or another antibiotic known to be effective against *S. pyogenes*. Treatment of abscesses with I&D alone may be sufficient regardless of pathogen, but they also suggest a role for culture, both to guide further treatment if required and to monitor shifts in the prevalence of MRSA in the community.

Laibl VR, Sheffield JS, Roberts S, et al. Clinical presentation of community-acquired methicillin-resistant *Staphylococcus aureus* in pregnancy. *Obstetrics & Gynecology*.106:461-465. Other articles available online.

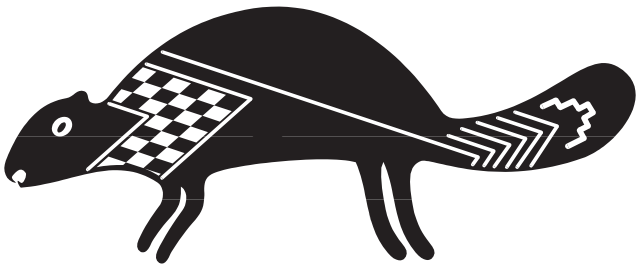
Perinatology Picks: George Gilson, MFM, ANMC

Meconium happens.

Background: It is uncertain whether amnioinfusion (infusion of saline into the amniotic cavity) in women who have thick meconium staining of the amniotic fluid reduces the risk of perinatal death, moderate or severe meconium aspiration syndrome, or both.

Methods: We performed a multicenter trial in which 1998 pregnant women in labor at 36 or more weeks of gestation who had thick meconium staining of the amniotic fluid were stratified according to the presence or absence of variable decelerations in fetal heart rate and then randomly assigned to amnioinfusion or to standard care. The composite primary outcome measure was perinatal death, moderate or severe meconium aspiration syndrome, or both.

Results: Perinatal death, moderate or severe meconium aspiration syndrome, or both occurred in 44 infants (4.5 percent) of women in the amnioinfusion group and 35 infants (3.5 percent) of women in the control group (relative risk, 1.26; 95 percent confidence interval, 0.82 to 1.95). Five perinatal deaths occurred in the amnioinfusion group and five in the control group. The rate of cesarean delivery was 31.8 percent



in the amnioinfusion group and 29.0 percent in the control group (relative risk, 1.10; 95 percent confidence interval, 0.96 to 1.25).

Conclusions: For women in labor who have thick meconium staining of the amniotic fluid, amnioinfusion did not reduce the risk of moderate or severe meconium aspiration syndrome, perinatal death, or other major maternal or neonatal disorders.

Fraser WD, et al. Amnioinfusion for the prevention of the meconium aspiration syndrome. *NEJM*. 2005; 353:909-17.

Comment: George Gilson, MFM

Meconium happens in about 12% of all births, and in over 30% of post term births. The meconium aspiration syndrome (MAS) occurs in 1/2000 births, and in up to 8% of post term births. Meconium is found below the cords in almost half of births through meconium stained fluid, but only a small proportion of infants with "mec" below the cords will develop MAS. Pharyngeal suctioning and endotracheal intubation and suctioning have not been shown to reduce the risk of MAS. A 2002 Cochrane Review found that amnioinfusion was associated with an overall reduction in the incidence of MAS (RR = 0.44, CI 0.25-0.78), but the current study challenges this.

Fraser, et al carried out a multicenter, randomized, controlled trial of 1,998 women at term with thick meconium into treatment with amnioinfusion, or standard labor care without amnioinfusion. The study groups were further stratified into cases with and without recurrent severe variable decelerations of the fetal heart rate. Women in the amnioinfusion arm had a rate of MAS of 4.4%, a neonatal death rate of 0.5%, and a cesarean delivery rate of 32%. Women in the control group had corresponding rates of 3.1%, 0.5%, and 29%, none of which were significantly different. There was likewise no significant effect of amnioinfusion in the subgroup with variable decelerations; however the study was underpowered for this occurrence. Modalities used for neonatal suctioning and resuscitation were likewise not significantly different between the groups.

This large RCT most likely trumps the previous meta-analyses. There are probably several reasons why amnioinfusion did not effect the anticipated result. MAS is not correlated with FHR decelerations, low pH, five minute Apgar score, or other markers of acute hypoxia. It is correlated with oligohydramnios, elevated cord blood erythropoietin, and muscularization of the pulmonary arteries at autopsy, all markers of *chronic* hypoxia. Most infants in whom the syndrome develops have meconium in the tracheobronchial tree before labor. As their chronic hypoxia worsens and their pCO2 rises, they probably involuntarily defecate and then gasp, aspirating meconium deep into their lower respiratory tract before any intervention could have been helpful. Since most MAS occurs in post term infants, preventing the occurrence of postmaturity by inducing labor at 41 weeks is the intervention most likely to be of benefit in preventing deaths secondary to meconium aspiration.

We'll have to wait to see how our professional organizations respond to this important paper before we abandon amnioinfusion altogether, and we hope we see some confirmatory studies as well

STD Corner - Lori de Ravello, National IHS STD Program

High-risk HPV associated with *Chlamydia trachomatis* in female adolescents.

Human papillomavirus (HPV) infection is a necessary, but not sufficient cause of cervical cancer. While chlamydia infection has been associated with cervical cancer, the meaning of this association remains unclear. The authors' objective was to investigate this association by evaluating whether concurrent genital tract infections are associated with HPV persistence, a precursor to cervical cancer. Interview data and biologic samples for HPV, *Chlamydia trachomatis*, *Neisseria gonorrhoeae*, *Trichomonas vaginalis*, and bacterial vaginosis testing were collected from female adolescents in an Atlanta, Georgia, longitudinal cohort study at 6-month visits (1999-2003). Associations with persistence (detection of the same HPV type at two sequential visits (visit pair)) were assessed among subjects with 2 - 5 visits and 6 or more months of follow-up. Associations were evaluated by logistic regression using methods for correlated data. Type-specific persistence of high-risk HPV types was detected in 77 of 181 (43%) analyzed visit pairs. Concurrent infection with *C. trachomatis* was independently associated with persistence of high-risk HPV types (adjusted odds ratio = 2.1, 95% confidence interval: 1.0, 4.1). Infection with more than one HPV type at the initial visit was also associated with high-risk persistence (adjusted odds ratio = 2.8, 95% confidence interval: 1.6, 4.9). The association between chlamydia infection and cervical cancer may be due to an effect of chlamydia infection on persistence of high-risk HPV.

Samoff E, et al. Association of *Chlamydia trachomatis* with persistence of high-risk types of human papillomavirus in a cohort of female adolescents. *Am J Epidemiol.* 2005 Oct 1;162(7):668-75.

Barbara Stillwater, Alaska State Diabetes Program

Type 2 diabetes mortality in women: same as a "coronary heart disease equivalent."

Conclusions: Diabetes without prior myocardial infarction and prior myocardial infarction without diabetes indicate similar risk for CHD death in men and women. However, diabetes without any prior evidence of CHD (myocardial infarction or angina pectoris or ischemic ECG changes) indicates a higher risk than prior evidence of CHD in nondiabetic subjects, especially in women.

Juutilainen A, et al. Type 2 diabetes as a "coronary heart disease equivalent": an 18-year prospective population-based study in Finnish subjects. *Diabetes Care.* 2005 Dec;28(12):2901-7.

This is a page for sharing "what works" as seen in the published literature, as well as what is being done at sites that care for American Indian/Alaskan Native children. If you have any suggestions, comments, or questions, please contact Steve Holve, MD, Chief Clinical Consultant in Pediatrics at *sholve@tcimc.ihs.gov*.

IHS Child Health Notes

Quote of the month

"Get a bicycle. You will not regret it if you live."

Mark Twain

Articles of Interest

Cost of influenza hospitalization at a tertiary care children's hospital and its impact on the cost-benefit analysis of the recommendation for universal influenza immunization in children age 6 to 23 months. *J Pediatr*. 2005 Dec;147(6):807-11. *http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?CMD=search&DB=pubmed*.

Influenza-associated deaths among children in the United States, 2003-2004. *N Engl J Med.* 2005 Dec 15;353(24):2559-67. *http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=Retrieve&db=pubmed&dopt=Abstract&list_uids=16354892&query_hl=2*.

By the time you read this, influenza will likely have already arrived in your community. The first article looks at the cost-benefit ratio for influenza vaccination of all children ages 6 to 23 months and reports that vaccinations are cost effective. No surprises there.

The second article reviews 153 influenza-associated deaths in children from the 2003-2004 winter. Those in practice then will recall that it was a particularly busy flu season made more difficult by concern that there were an increased number of childhood deaths related to influenza. This study confirms that the 2003 - 2004 flu season was more severe than usual. The increased mortality is attributed to the finding that the predominant virus in circulation that year was influenza A (H3N2), a subtype associated with increased virulence.

The study confirmed that the highest death rate occurred in those less than six months. The death rate was also much higher in those less than 24 months compared to those older. Patients with a designated high-risk condition were at five times the risk of death compared to children without risk factors. All of this confirms existing guidelines for universal vaccination of children 6 months to 23 months and those with designated high-risk disorders.

Of note was that children with chronic neurological or neuromuscular disorders had an equally elevated mortality rate. This heterogeneous group of disorders includes "developmental delay, cerebral palsy, seizure disorders, and congenital neurological conditions." Those with these illnesses are not currently designated to receive the annual flu vaccination. However, the Advisory Committee on Immunization Practices recently recommended the annual flu vaccine for all persons with "conditions that can compromise respiratory function or the handling of respiratory secretions or that can increase the risk of aspiration." This would cover most patients with the above diseases.

Of children for whom vaccine status could be determined, only 16% had been immunized against influenza. For high-risk groups such as ages 6 months to 23 months and those with cardiorespiratory disease, the flu vaccination rates were only marginally better at 26%. While vaccination is not fully protective, it continues to be underutilized in children. Are we doing better in the Indian Health Service?

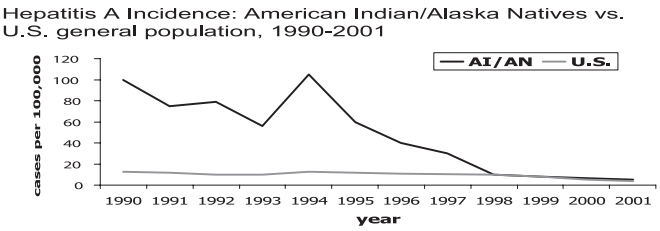
Lastly, for those who want to keep track of influenza activity in their communities, this winter the CDC has a website that is updated weekly. Go to *http://www.cdc.gov/flu/weekly/fluactivity.htm*.

Infectious Disease Updates.
Rosalyn Singleton, MD, MPH

Hepatitis A vaccine: nice success story, and new recommendations.

At the October 26 ACIP meeting, members voted that all children in the US be vaccinated against hepatitis A vaccine. This fall the FDA changed the recommended earliest age for hepatitis A vaccine from two years to one year. The next version of the RPMS immunization package will forecast hep A vaccine starting at 15 months (the 12 month visit is too crowded with other vaccines).

Providers in Indian country have led the way in hepatitis A prevention. IHS and tribal programs have been providing routine hepatitis A vaccine to American Indian and Alaska Native (AI/AN) children since 1996, when hepatitis A was first licensed. Routine childhood vaccination has basically eliminated hepatitis A infection as a public health problem among AI/AN people. This nice graph from Stephanie Bialek's article shows the dramatic decline in AI/AN people, from 10-fold higher, to a rate now similar to the rest of the US.



Reference: Bialek SR. *AJPH* 2004;94:996-1001

Recent literature on American Indian/Alaskan Native Health

Doug Esposito, MD

Comprehensive primary care for children with special health care needs in rural areas. *Pediatrics*. 2005;116(3):649-56. *http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=Retrieve&db=pubmed&dopt=Abstract&list_uids=16140704&query_hl=1*.

The authors report results from a medical home demonstration project conducted in rural Missouri. Although not specific to AI/AN populations, this study has direct relevance to rural IHS practice environments. The six-month intervention consisted of a health care team comprised of a primary care physician, their office staff, a nurse practitioner (who worked for the project), a paid parent consultant, the child, and the family. Each family received a comprehensive evaluation of the child and family's medical and non-medical needs by the NP, culminating in a written care plan and letter outlining services available in the community to meet these needs. In addition, the NP provided consultation to the rural practices to help improve their capacity to function as a medical home for children with special health care needs. Family support services were also provided by the parent consultant.

This study demonstrated a positive effect. Families reported increased satisfaction with care coordination and increased access to mental health services for their children. There was also a positive impact on several aspects of family functioning, including a decrease in family needs, decreased absences from work, fewer absences from school, and less family strain. Family satisfaction with their primary care provider decreased slightly, but an explanation for this unexpected finding was offered.

Limitations of this study included a lack of a control group. Additionally, although the counties included in the study were rural, they were adjacent to metropolitan areas, thus potentially limiting the study's generalizability to more rural environments. Finally, the study population was over-represented by children with more severe conditions, single parent families, and children with insurance coverage, potentially limiting generalizability further.

Overall, though, the study demonstrated a beneficial effect of a medical home model of care for children with special health care needs residing in a rural setting.

Editorial Comment

There is much buzz in the literature lately regarding the medical home concept and care coordination (a.k.a. case management). Conspicuously absent, though, have been data demonstrating a benefit in rural, underserved populations. This paper goes some distance in defining the benefit we would all expect from wider adoption and application of these concepts.

It is no secret to those of us who work on rural reservations that the services routinely accessible to children and youth with special health care needs in urban and suburban settings are significantly lacking and difficult or even impossible to access from our more remote environs. You can't get what doesn't exist, or what is impossibly distant! For example, in my own community of Fort Defiance, Arizona, pediatric specialized speech, occupational, and physical therapy services for mild to moderately affected children are only accessible through either the public schools or the Early Intervention Program. These services are routinely stretched thin, and do not provide sufficient hours of one-on-one contact to achieve optimal (or sufficient) benefit. The closest place to receive any necessary or medically indicated supplemental services for us is 40 miles away. The drive is even more untenable for those living even deeper inside the reservation, or for those so cash-strapped as to not have transportation or gas money. Even if such services were covered by Medicaid, Medicare, or private insurance, accessing them is truly a daunting prospect.

We are fortunate in that IHS or tribally administered health systems are more-or-less organized along the lines of the medical home concept. This was the case even before the concept became trendy! Care coordination is essentially what we medical providers do, though we certainly could do it better and more efficiently. More robust and better organized systems of care coordination are definitely indicated.

The time is now to push for true care coordination on a wider scale in IHS and rural America. Medical providers working with AI/AN populations are typically responsible for knowing and understanding all the services available and how to access them. But, are we really good at that? We are also responsible for making the phone calls, writing the letters, tracking down patients, etc., etc. But, are we the best ones to be doing that either?

I believe that other professions (nurse practitioners, physician assistants, registered nurses, social workers, etc.) are better positioned to serve as care coordinators. I would advocate for a re-evaluation of our system of care, and movement toward one which relies more heavily on professional non-physician care coordinators. Numerous studies have demonstrated multiple benefits of such a model. The difficulty now will be working with the reimbursement world, state and federal governments, and agencies, and our own administrators to help figure out how to make this all work on a more global scale!

South Central Foundation (SCF) in Anchorage, Alaska, has a fairly robust system of care coordination. At SCF, each primary care pediatrician is paired with a nurse case manager. This system works wonderfully and approaches seamless and efficient family centered care for medically complex children and children with special health care needs. And, families love it! Although this system is unlikely to be economically or administratively feasible in most IHS or rural settings at the

present time, some form of professional care coordination is highly desirable. We must move in that direction.

Additional Reading

Care coordination in the medical home: integrating health and related systems of care for children with special health care needs. *Pediatrics*. 2005 Nov;116(5):1238-44. *http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=Retrieve&db=pubmed&dopt=Abstract&list_uids=16264016&query_hl=13&itool=pubmed_docsum*.

Care coordination services in pediatric practices. *Pediatrics*. 2004;113:1517-21. *http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=Retrieve&db=pubmed&dopt=Abstract&list_uids=15121920&query_hl=23&itool=pubmed_docsum*.

History of the medical home concept. *Pediatrics*. 2004;113:1473-8. *http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=Retrieve&db=pubmed&dopt=Abstract&list_uids=15121914&query_hl=11&itool=pubmed_docsum*.

Announcements from the AAP Indian Health Special Interest Group: Native American Child Health Advocacy Award – Call for Nominations

Each year, the AAP Committee on Native American Child Health presents the Native American Child Health Advocacy Award to recognize an individual who has made a major contribution to Native American child health. The AAP Committee on Native American Child Health will be accepting nominations for the 2006 Native American Child Health Advocacy Award through February 28, 2006. The award will be presented at the 2006 AAP National Conference and Exhibition to recognize an individual who has made a major contribution to promoting Native American child health. If you know of a physician or non-physician who merits this recognition, please submit a letter of nomination, along with the candidate's CV to Committee on Native American Child Health, American Academy of Pediatrics, 141 Northwest Point Blvd., Elk Grove Village, Illinois 60007; fax (847) 434-8729; e-mail *indianhealth@aap.org*.

Invitation to Submit Manuscripts

The MCH Journal is planning to publish a supplemental issue entitled, "Research for MCH Practice in American Indian and Alaskan Native Communities." Investigators are invited to submit manuscripts for consideration. Manuscripts may report epidemiological studies, research on health services, intervention trials, and program evaluations. Submissions that are authored or co-authored by American Indians and Alaskan Natives are especially encouraged. Additional information can be obtained by contacting Myra Tucker, supplement associate editor, at *mjt2@cdc.gov* or (770) 488-6267.

Locums Tenens and Job Opportunities

If you have a short or long term opportunity in an IHS, tribal or urban facility that you'd like for us to publicize (i.e., on the AAP website or a complimentary ad on Ped Jobs, the official AAP on-line job board), please forward the information to *indianhealth@aap.org* or complete the on-line *locum tenens* form at *http://www.aap.org/nach/locumtenens.htm*.

.

Correction

In the October 2005 issue of the *IHS Primary Care Provider*, the article entitled "Processing Federal Malpractice Tort Claims and Reporting to the National Practitioner Data Bank" (Volume 30, Number 10, pages 251 - 254) incorrectly stated that the IHS Risk Management Program is involved in the review and processing of tort claims filed against care provided at Urban Indian Programs. Only claims involving IHS direct care sites and tribal facilities operating under P.L. 93-638 compacts or contracts are the responsibility of the IHS Risk Management Program. We regret any confusion this error might have caused.

Abstract Not Enough? Want the Full Text? Try the Electronic Document Delivery Service

Diane Cooper, Biomedical Librarian/Informationist, Health Services Research Library, National Institutes of Health Library, Bethesda, Maryland

When the abstract of a journal article doesn't give you what you need, you'll want the full text article. Or maybe you have a citation but not the article itself. For the times when you need that full text article, here are two ways to get it.

Directly From the Library Website

Often you can receive the full article by going to the HSR Library website (*http://hsrl.nihlibrary.nih.gov*). At the top menu, go to **Research Tools** and in the drop down menu box, click on **Online Journals.** You will be taken to a page with an alphabetized listing of journal titles. Find the journal you are interested in and click.

For example, you want an article from the current issue of *The New England Journal of Medicine*. Click on "N" from the listing of all journals beginning with "N." Click on the journal title, *New England Journal of Medicine***.** You are now at the publisher's page for *New England Journal of Medicine*. Click on the most current issue listed to view the table of contents. Scan the table of contents for this issue until you see the article. You can now click on PDF to obtain a printable version of the article.

Hint: A quick way to access journal titles is by using the search box on the left side menu of the HSR Library website. Just type the first word of a journal title and it will lead you to a listing with that word. Try it using "New."

Electronic Document Delivery

What if the online library doesn't carry the journal you are looking for? Journal articles, book chapters, and meeting abstracts *not available online* at the HSR Library website can be requested, scanned and delivered electronically to your e-mail site. If you have a citation to a specific item in the clinical literature, in most cases we can provide a copy for you.

Here are directions for ordering documents such as books, book chapters, or journal articles. Go back to *http://hsrl.nihlibrary.nih.gov*. On the left side menu, click on the link for **Order a Document**. A page will come up where you can click on **Indian Health Service**.

From the pull down menu, choose the type of publication you wish to order. In this case, we are requesting a copy of an article from a journal. Therefore, we will choose "*Journal"* for the **Publication Type**. We will also select *"Copy"* from the **Service Type** menu.

Enter the following required information in the spaces marked with a red asterisk

- Item title (type in journal name)
- Title of article
- Pages of article
- Volume number and the publication date (although not designated as a required field, please provide)

Although not noted with a red asterisk, you do need to select "method of delivery" and enter your e-mail address. In addition, it is also helpful if you add the volume number and publication date.

When you have finished entering the information, scroll down the page and click **Request Item** to send the request to the NIH Library. A message, containing a request number, will appear if the request was successfully sent to the NIH Library. That's all you need to do. In 2 - 3 days, a PDF version of the article will appear in your e-mail.

If you need help using the document delivery form or using any of the electronic resources on the HSR Library website, call me at (301) 594-2449, or e-mail *cooperd@mail.nih.gov*.

Change of Address or Request for New Subscription Form

Name _____ Job Title _____

Address _____

City/State/Zip _____

Worksite: ☐ IHS ☐ Tribal ☐ Urban Indian ☐ Other

Service Unit (if applicable) _____ Social Security Number _____

Check one: ☐ New Subscription ☐ Change of address

If change of address, please include old address, below, or attach address label.

Old Address _____

THE IHS PRIMARY CARE PROVIDER

A journal for health professionals working with American Indians and Alaska Natives

THE IHS PROVIDER is published monthly by the Indian Health Service Clinical Support Center (CSC). Telephone: (602) 364-7777; fax: (602) 364-7788; e-mail: *the.provider@phx.ihs.gov.* Previous issues of THE PROVIDER (beginning with the December 1994 issue) can be found on the CSC Internet home page *(www.ihs.gov/PublicInfo/Publications/HealthProvider.asp).*

Wesley J. Picciotti, MPA .....Director, CSC
John F. Saari, MD .....Editor
E.Y. Hooper, MD, MPH.....Contributing Editor
Cheryl Begay.....Production Assistant
Theodora R. Bradley, RN, MPH .....Nursing Consultant
Erma J. Casuse, CDA .....Dental Assisting Training Coordinator
Edward J. Stein, PharmD .....Pharmacy Consultant

Opinions expressed in articles are those of the authors and do not necessarily reflect those of the Indian Health Service or the Editors.

Circulation: The PROVIDER (ISSN 1063-4398) is distributed to more than 6,000 health care providers working for the IHS and tribal health programs, to medical schools throughout the country, and to health professionals working with or interested in American Indian and Alaska Native health care. If you would like to receive a copy, send your name, address, professional title, and place of employment to the address listed below.

Publication of articles: Manuscripts, comments, and letters to the editor are welcome. Items submitted for publication should be no longer than 3000 words in length, typed, double-spaced, and conform to manuscript standards. PC-compatible word processor files are preferred. Manuscripts may be received via e-mail.

Authors should submit at least one hard copy with each electronic copy. References should be included. All manuscripts are subject to editorial and peer review. Responsibility for obtaining permission from appropriate tribal authorities and Area Publications Committees to publish manuscripts rests with the author. For those who would like more information, a packet entitled "Information for Authors" is available by contacting the CSC at the address below or on our website at www.csc.ihs.gov.

Dept. of Health and Human Services
Indian Health Service
Clinical Support Center
Two Renaissance Square, Suite 780
40 North Central Avenue
Phoenix, Arizona 85004

PRESORTED STANDARD
POSTAGE AND FEES PAID
U.S. DEPT. OF HEALTH & HUMAN SERVICES
PHOENIX, AZ
PERMIT NO. 5691

CHANGE SERVICE REQUESTED

_____

OFFICIAL BUSINESS
PENALTY FOR PRIVATE USE $300