
in any given series of chest compressions, earlier compressions are less effective than later ones. Therefore, fewer interruptions increase the percentage of effective chest compressions. Allowing the chest to fully recoil or return to its normal position between compressions also results in better refilling of blood in the heart, which allows more blood to be pumped to the rest of the body during the next compression.

This emphasis on providing CPR with fewer interruptions is also reflected in the changes to the new guidelines for using a defibrillator. For example, rescuers are advised to use only one shock before resuming CPR, rather than three, as

previously recommended. Those who do not convert with the first shock will have a better chance of responding to another shock if they first receive some CPR. This also reduces the length of time that the victim is left with no blood flow to the heart, brain, and other vital organs.

Reference

Circulation, Volume 112, Issue 24 Supplement; December 13, 2005. This special supplement to *Circulation* is freely available at http://circ.ahajournals.org/content/vol112/24_suppl/.

Conference to Focus on Reducing Health Disparities in American Indians and Alaska Natives

Diabetes is a significant health problem in American Indians and Alaska Natives and will be the topic of the conference “Reducing Health Disparities in American Indian and Alaska Natives by Preventing Diabetes Throughout the Life Cycle,” to be held on August 21 - 24, 2006 at the Cox Business Services Convention Center in Oklahoma City.

The conference is designed to provide a forum for sharing and exchanging information about ongoing prediabetes and diabetes prevention efforts. It will focus on community empowerment and involvement in diabetes prevention throughout the life cycle: infancy, youth, adult, and elder.

The conference will cover health disparities in diabetes and its complications in American Indians; how changes in existing communities can support wellness activities; tribal perspectives and the role of tribes in diabetes prevention; health professionals’ roles in promoting/implementing prevention strategies; recruitment and retention of participants in diabetes prevention activities; and the introduction of new prevention strategies. It also will provide community members an opportunity to share successes and challenges. The event is co-sponsored by the Native American EXPORT Center from the College of Public Health at the University of Oklahoma Health Sciences Center, and the Oklahoma City Area Indian Health Service (IHS).

The accredited sponsor of the conference for continuing education is the IHS Clinical Support Center. The Clinical

Support Center (CSC) is accredited by the Accreditation Council for Continuing Medical Education to sponsor continuing education for physicians. The CSC designates this activity for up to 12.5 hours of Category 1 credit toward the Physician’s Recognition Award of the American Medical Association. Each physician should claim only those hours of credit he or she actually spends in the educational activity. This Category 1 credit is also accepted by the American Academy of Physician Assistants and the American College of Nurse-Midwives. The Indian Health Service CSC is a provider of continuing education in nursing by the American Nurses Credentialing Center Commission on Accreditation. This activity has been awarded 15 contact hours for nurses.

For more information about exhibits or registrations, or to submit an abstract online, visit export.ouhsc.edu. If you are unable to access online registration, call toll-free (888) 231-4671 for a hard copy registration form. The deadline for early bird registration is June 15 and regular registration begins June 16.

To make hotel reservations, contact the following participating hotels: Renaissance Oklahoma City, the host hotel, at (405) 228-8000; Courtyard Marriott at (405) 232-2290; and Sheraton Oklahoma City at (405) 235-2780. Located in the heart of downtown Oklahoma City, the Cox Business Services Convention Center is surrounded by the Bricktown area and all three participating hotels.

Nursing and Allied Health Information Sources

Diane Cooper, Indian Health Service Biomedical Librarian/Informationist, National Institutes of Health Library, Bethesda, Maryland

Nursing and allied health professionals: you have a virtual giant book containing thousands of articles from dozens of journals in your fields. English language publications for nursing and most allied health fields (see Figure 1) are indexed in the *Cumulative Index to Nursing Literature and Allied Health (CINAHL)*. You can search the CINAHL database and find articles on all subjects within the universe of your specialty. The database covers the period 1983 to the present and is updated monthly.

Figure 1. Specialties covered in CINAHL

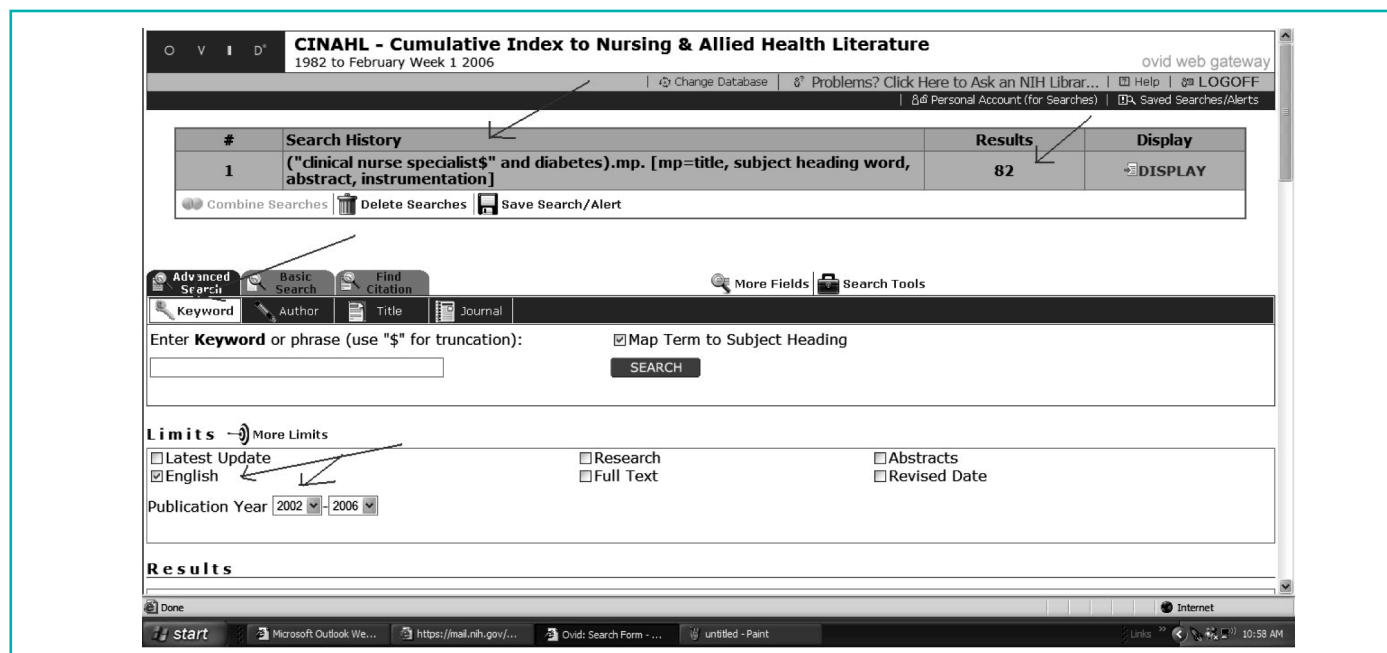
- Nursing
- Cardiopulmonary technology
- Emergency service
- Medical laboratory
- Medical assistant
- Medical records
- Occupational therapy
- Physical therapy
- Physician assistant
- Radiologic technology
- Social services

If you have an information need, go to the CINAHL database in NIH's Health Services Research Library website. Go to <http://hsrl.nihlibrary.nih.gov> and move your cursor over the top menu to **Research Tools**. Within the drop-down box, click on **Databases**, and scroll down the page to the database **CINAHL**.

How to Do a Basic Search in CINAHL

1. Define your information need. For example: "I want to find articles on ways in which Clinical Nurse Specialists work with diabetes patients."
2. Identify the main concepts from your search statement. In this example the concepts are *clinical nurse specialists*; and *diabetes*.
3. Click on **Keyword**.
4. Enter these concepts in the **Search For** box. Enter phrases, e.g., *clinical nurse specialists*, between quotation marks.
4. Use connectors (and, or) to narrow or broaden your search. In our example we would want to combine the two subjects together with the "and" connector. Also, you want to get the singular or plural form (truncation) of any words; to do that you use the \$ sign. In our example, the search box would have: "clinical nurse specialist\$" and diabetes. Note: when you type this in the search box and hit enter, the **Results Box** will show that the terms were searched in multiple places (*mp*). It will add the tag explaining what "mp" means, and will show there are 82 citations (see Figure 2).

Figure 2. Screenshot fo CINAHL page



- The results may give you more citations than you want. You can limit your search by selecting in the **Limit field** “*English language*” and a date range (for example, all articles from 2002 to 2006).
- Click **search** and the results will appear below the search box. Or you can click on **Display** in the search box to go to a page listing the articles relevant to your search.
- To print records, check the boxes to the left of each record you want to print. At the bottom of the page, under the **Results Manager**, you can select to print only the records you selected, or you can print the entire search results. The printout format is defaulted to citation and abstract in OVID format, which is fine to start. Under **Actions** you can choose to display your results; preview a print version of your results; e-mail your results to someone else; or save them to a file to print out later.

- Next, click on **Author**, and in the first box enter “*Simpson RL.*” Use last name first and then initial(s) if known.
- Click on **Keyword**, and in the box enter *technology*.
- Combine the author search with the keyword search by clicking on **Combine Searches** under the search boxes and see the results.

Example 2: You want information on diabetes in pregnancy from the *Journal of Diabetes Nursing*.

- In the first search box, enter *diabetes* (use the keyword tab.)
- In the next search box, enter *pregnancy* (use the keyword tab.)
- In the third search box, enter “*Journal of Diabetes Nursing*” (in quotes, because it is a phrase, and use the journal tab)
- Combine the entries by clicking on **Combine Searches** and use the default Boolean operator “and,” which will combine each entry with “and.”

If your search does not get you what you want, or if you have questions, comments, or suggestions, contact me at (301) 594-2449 or e-mail cooperd@mail.nih.gov.

Advanced Searches in CINAHL

An advanced search in CINAHL allows you to search different fields, such as author and title, at the same time.

Example 1: Awhile back, you read an article by R.L. Simpson on technology. Now, you want a copy.

- On the CINAHL search screen, click on **Advanced Search**.

Executive Leadership Development Program Announces 2006 Dates



VISION

The Executive Leadership Development Program is the preferred, premier leadership training program for Indian health care professionals.

PURPOSE

To educate current and future leaders to continually improve the health status of Indian people.

MISSION

The Executive Leadership Development Program will be the recognized leader in education and support services for Indian health care systems through collaboration, partnerships, and alliances.

Executive Leadership Development Program New Dates

ELDP collaborates with federal, tribal, and urban Indian health care systems to develop and increase leadership and management skills. In addition, participants develop new relationships and networks with other executives within the Indian health care systems.

SESSION DATES:

Session One – Aurora, CO
May 8 - 12, 2006

Session Two – Aurora, CO
June 19 - 23, 2006

Session Three – Aurora, CO
July 24 - 28, 2006

The IHS Clinical Support Center is the accredited sponsor.

Contact:

Indian Health Service Clinical Support Center
Executive Leadership Development Coordinator
Wes Picciotti or Gigi Holmes
Indian Health Service, Clinical Support Center
Two Renaissance Square, Suite 780
40 N. Central Avenue, Phoenix, Arizona 85004-4424
Phone: (602) 364-7777 FAX: (602) 364-7788
Internet: ELDP@mail.ihs.gov
Website: www.ihs.gov/nonmedicalprograms/eldp

Editor's Note: The following is a digest of the monthly Obstetrics and Gynecology Chief Clinical Consultant's Newsletter (Volume 4, No. 1, January 2006) 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

Link between GDM and Type 2 DM can be broken.

Type 2 diabetes frequently results from progressive failure of pancreatic beta-cell function in the presence of chronic insulin resistance. We tested whether chronic amelioration of insulin resistance would preserve pancreatic beta-cell function and delay or prevent the onset of type 2 diabetes in high-risk Hispanic women.

Results: During a median follow-up of 30 months on blinded medication, average annual diabetes incidence rates in the 236 women who returned for at least one follow-up visit were 12.1 and 5.4% in women assigned to placebo and troglitazone, respectively ($P < 0.01$). Protection from diabetes in the troglitazone group

1. was closely related to the degree of reduction in endogenous insulin requirements 3 months after randomization,
2. persisted 8 months after study medications were stopped, and
3. was associated with preservation of beta-cell compensation for insulin resistance.

Conclusion: Treatment with troglitazone delayed or prevented the onset of type 2 diabetes in high-risk Hispanic women. The protective effect was associated with the preservation of pancreatic beta-cell function and appeared to be mediated by a reduction in the secretory demands placed on beta-cells by chronic insulin resistance.

Buchanan TA, et al. Preservation of pancreatic beta-cell function and prevention of type 2 diabetes by pharmacological treatment of insulin resistance in high-risk hispanic women. *Diabetes*. 2002 Sep;51(9):2796-803

OB/GYN CCC Editorial comment

This is the first randomized clinical trial to show prevention or delay in the onset of type 2 diabetes in former gestational diabetes mellitus (GDM) patients. Kim, et al showed that in GDM, the cumulative incidence of diabetes ranged to over 70% in studies that examined women six weeks postpartum to 28 years postpartum. Cumulative incidence of type 2 diabetes increased markedly in the first five years after delivery and appeared to plateau after ten years. An elevated fasting glucose level during pregnancy was the risk factor most

commonly associated with future risk of type 2 diabetes. Targeting women with elevated fasting glucose levels during pregnancy may prove to have the greatest effect for the effort required. The above RCT by Buchanan, et al showed that the onset of type 2 DM could be delayed or prevented in women with a history of GDM.

There is evidence that a number of pharmacologic interventions may be of value in preventing the development of type 2 diabetes in patients with impaired glucose tolerance (or prediabetes). Drug therapy with metformin (a biguanide) or acarbose (an alpha-glucosidase inhibitor) has been shown to delay or prevent the progression of impaired glucose tolerance to type 2 diabetes. The thiazolidinedione troglitazone, which is no longer available, has also been shown to have a similar effect to other insulin sensitizers. Current expert opinion is that this is most likely a class effect, and is not specific to troglitazone only.

Troglitazone was removed from the market due to cases of hepatic failure. That is part of the reason for the required liver function test (LFT) monitoring with pioglitazone and rosiglitazone. Pioglitazone and rosiglitazone do not seem to cause hepatic failure as troglitazone did. Pioglitazone and rosiglitazone are considered similar to troglitazone and safe. It was initially recommended to monitor LFTs at baseline and every two months for the first year of therapy, periodically thereafter. The package insert has been relaxed and now recommends LFTs at baseline and periodically thereafter.

While the particular pharmacological treatment used by Buchanan, et al is no longer available to us, it appears that it was a drug class effect not limited to that particular agent. On the other hand, diet, exercise, and metformin are widely available.

From Your Colleagues Carolyn Aoyama, HQE

Gestational Diabetes: ACOG/IHS Obstetrics, Neonatal and Gynecologic Care.

I want to make you aware of the Post Graduate Course on Obstetric, Neonatal and Gynecologic Care which will be offered this year, September 17 - 21 in Denver, Colorado. This course will include content on gestational diabetes, including how GDM affects the mother's health during her pregnancy, the

health of the fetus, and the neonate. Please consider attending this interesting course (<http://www.ihs.gov/MedicalPrograms/MCH/M/CN01.cfm#Sep06>).

OB/GYN CCC Editorial comment

The ACOG/IHS Postgraduate Course represents a unique opportunity for Indian health staff who care for AI/AN women and children. There are no other major subject areas in which a major professional organization, like ACOG, has devoted so many resources to improving the care of Native people. The course is a thorough, 4½ day primer on all the relevant topics in the care of AI/AN women and neonates. It is a great resource for a staff member new to Indian health, or a seasoned staff member who wants a complete update. The course has been held since the 1980s, so most of the kinks have been worked out, as witnessed by its superlative ratings from past attendees. Each facility should consider sending at least one provider and one nurse to this year's course. Limited funding may be available; contact Carolyn Aoyama at Carolyn.Aoyama@ihs.gov.

Tom and Edith Welty, Flagstaff

Integrating prevention of mother-to-child HIV transmission (PMTCT) into routine antenatal care.

Here is an article published in *JAIDS* describing work done by our colleagues in Cameroon. We will be going to Cameroon again this month to help support the program there.

We trained 690 health workers in PMTCT and counseled 68,635 women, 91.9% of whom accepted HIV testing. Of 63,094 women tested, 8.7% were HIV-1-positive. Independent risk factors for infection included young age at first sexual intercourse, multiple sex partners, and positive syphilis serology ($P < 0.001$ for each). We counseled 98.7% of positive and negative mothers on a posttest basis. Of 5550 HIV-positive mothers, we counseled 5433 (97.9%) on single-dose NVP prophylaxis. Consistent training and programmatic support contributed to rapid upscaling and high uptake and counseling rates.

Welty TK, Bulterys M, Welty ER, et al. Integrating prevention of mother-to-child HIV transmission into routine antenatal care: the key to program expansion in Cameroon.

OB/GYN CCC Editorial comment

Edie and Tom retired from IHS after 26 years (23 with IHS and 3 with CDC) in 1997. They began to work as volunteers with the Cameroon Baptist Convention Health Board in 1998 and go there about six weeks a year to support their program. They wrote a grant to Elizabeth Glaser Pediatric AIDS Foundation (EGPAF) in 2000, which was one of eight programs funded, and EGPAF has renewed it annually since then. The AIDS Program is quite comprehensive (summary available upon request).

"It is very gratifying for us to see how much they have accomplished with minimal resources. Everyone has been affected by HIV and is motivated to do as much as possible to prevent and treat it," say the Weltys.

Obstetrics

Bed Rest for pregnancy related hypertension should not be recommended.

Conclusions: Few randomized trials have evaluated rest for women with hypertension during pregnancy, and important information on side-effects and cost implication is missing from available trials. Although one small trial suggests that some bed rest may be associated with reduced risk of severe hypertension and preterm birth, these findings need to be confirmed in larger trials. At present, there is insufficient evidence to provide clear guidance for clinical practice. Therefore, bed rest should not be recommended routinely for hypertension in pregnancy, especially since more women appear to prefer unrestricted activity, if the choice were given.

Meher S, Abalos E, Carroli G. Bed rest with or without hospitalisation for hypertension during pregnancy. *The Cochrane Database of Systematic Reviews* 2005, Issue 4. Art. No.: CD003514.pub2. DOI: 10.1002/14651858.CD003514.pub2

Gynecology

Prior function and relationship, more than hormones, affect sexual function in midlife.

Conclusion: Prior function and relationship factors are more important than hormonal determinants of sexual function of women in midlife.

Dennerstein L, Leher P, Burger H. The relative effects of hormones and relationship factors on sexual function of women through the natural menopausal transition. *Fertil Steril.* 2005 Jul;84(1):174-80.

Child Health

Adolescents: low-dose oral contraceptive relieved dysmenorrhea-associated pain.

Results: The mean Moos Menstrual Distress Questionnaire pain score was lower (less pain) in the OC group than the placebo group (3.1, standard deviation 3.2 compared with 5.8, standard deviation 4.5, $P = .004$, 95% confidence interval for the difference between means 0.88-4.53). By cycle 3, OC users rated their worst pain as less (mean pain rating 3.7 compared with 5.4, $P = .02$) and used fewer pain medications than placebo users (mean pain pills used 1.3 compared with 3.7, $P = .05$). By cycle 3, OC users reported fewer days of any pain, fewer days of severe pain, and fewer hours of pain on the worst pain day than placebo users; however, these differences did not reach statistical significance.

Conclusions: Among adolescents, a low-dose oral contraceptive relieved dysmenorrhea-associated pain more effectively than placebo. LEVEL OF EVIDENCE: I.

Davis AR, et al. Oral contraceptives for dysmenorrhea in adolescent girls: a randomized trial. *Obstet Gynecol.* 2005 Jul;106(1):97-104.

Features

ACOG

Vaginal birth not associated with incontinence later in life.

Contrary to the belief held by some, vaginal birth does not appear to be associated with incontinence later in life, a new study has found. The study, published in the December issue of *Obstetrics & Gynecology*, found that incontinence was more strongly related with family history.

Research finds 40% of pregnancy-related deaths potentially preventable.

The overall maternal mortality rate in the US is not as low as it could be, according to a review of pregnancy-related deaths published in the December issue of *Obstetrics & Gynecology*. The review found that 40% of all pregnancy-related deaths in North Carolina from 1995 - 1999 were potentially preventable. Worldwide, complications of pregnancy are a major source of mortality among women. Although the US saw a 99% reduction in maternal death during the 20th century, 29 developed nations still have lower maternal mortality rates.

Breastfeeding

Duration of lactation and incidence of type 2 diabetes (special editorial comments by Suzan Murphy, new CCCC columnist).

The following are comments on the December CCC Corner breastfeeding posting, "New studies shows a 15% reduction for the risk of diabetes for every year of lactation."

There are growing numbers of papers about the benefits of lactation for both the mom and baby. For our families where type 2 diabetes is a common, chronic threat and reality, a new tool — like breastfeeding — is a welcome addition to the diabetes prevention/care "tool kit." Studies in AI/AN and Native Canadian communities have linked breastfeeding with less risk of type 2 diabetes (Pettitt et al, 1997; Young et al, 2002) for offspring. Now studies support an even more profound maternal benefit for reducing diabetes risk (Stuebe AM et al, 2005). Breastfeeding could be the "immunization" that means less diabetes for future generations. Although there will be likely be more research about the mechanism for how this works, there are several possibilities, including enhanced maternal insulin sensitivity (Kjos SL et al, 1993; Tigas et al, 2002).

The CDC report, *Maternal Morbidity in American Indian and Alaska Native Women, 2002-2004*, by Bacak SJ et al, states the prevalence of gestational diabetes is 7.8%, an alarming number that hints at the spiraling increases ahead for our communities. The presence of diabetes during pregnancy dramatically increases the risk of diabetes for the offspring and the mother. Breastfeeding could reduce risk for both. Providing families/communities/tribal agencies with information about these benefits and ways to support the practice of breastfeeding will allow more families to breastfeed.

For ideas about ways to support breastfeeding, please

watch for the new IHS MCH breastfeeding page. If a video/DVD would help, call 1-877-868-9473 for a 12 minute professionally done video, "Close to the Heart, Breastfeeding Our Children, Honoring Our Values." It is free and can be duplicated. Posters are also available at this number. For free written materials, consider ordering "The Easy Guide to Breastfeeding for American Indians and Alaska Native Families" (url below). Scroll down to pregnancy, it is the last item in the category. If you need more than the maximum 100 copies, use the comment section to explain the need. Thanks to IHS Head Start, there is a generous supply.

Featured Website

David Gahn, IHS Women's Health Website Coordinator

Vaginal Birth after Cesarean, a new Perinatology Corner Module worth 2 credits.

This is a new edition of our previous module of the same name. The main changes include a new risk factor grading system, plus how to apply that information to clinical practice. <http://www.ihs.gov/MedicalPrograms/MCH/M/VB01.cfm>.

Medical Mystery Tour

CC: I feel really cold and my side hurts, plus I am shaking all over. Let us recap from last month. A 21 year old G2P1001 presented 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 not significant, but then again she had only three total prenatal visits. Her initial urinalysis showed WBC 10 - 30 hpf, positive leukocyte esterase, bacteria 1+, 3+ ketones, 1 - 5 epithelial cells/hpf, trace protein, nitrite negative, and negative casts.

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

Question

Is there anything else you would like to do now for this patient diagnosed with urosepsis at 37 weeks EGA?

The rest of the story . . .

The general surgery service signed off the case after the renal ultrasound was reported as normal. Two days later the patient continued to have right flank and lower quadrant pain with a WBC of 22.9 K. The General Surgery Service was reconferred and their suggested RUQ and RLQ ultrasounds were both negative, although there was a term fetus in the pelvis.

In the meantime, the blood culture was reported pan-sensitive *E. coli*. In view of the continued symptoms, the general surgery team suggested primary cesarean delivery and exploratory laparotomy/appendectomy (whether it was inflamed or not) versus vaginal delivery and computerized tomography after delivery. After discussion of the risks and benefits, a misoprostol cervical ripening was begun. The previous antibiotics were discontinued and the patient was started on ampicillin sulbactam 3 g q 6 IV. After the misoprostol 50 ug was placed vaginally, a prior blood culture returned with a second organism, a slender, elongated Gram negative rods, consistent with *Bacteroides fragilis*.

If there wasn't enough complicating the last few days of this patient's pregnancy, her midwife noted an unusual presenting structure. This was later confirmed to be a face presentation in right mentum transverse. In a rare stroke of good luck that week, the patient subsequently rotated her fetus to mentum anterior and delivered a normal infant in a double set up delivery suite later that evening.

Post partum, the patient's WBC decreased to 9.8K, but she continued with the same right sided pain. Computerized tomogram with contrast revealed a phlegmon surrounding a dilated appendix and appendicolith. Approximately 12 hours postpartum, the patient underwent an exploratory laparotomy. The general surgery team discovered a hardened retrocecal appendix which was completely avulsed at the base. The avulsion occurred either with the gentle attempts to visualize the appendix, or having already separated from the cecum. There was also a large appendicolith inferior to this. There was spillage of purulent material, but no bowel contents. An attempt was made to find where the base of the appendix came off the cecum. Two possible areas were treated with a 1-0 endoloops. The surgical incision was left open initially, but received a loose closure on postoperative day 2. The patient subsequently had an unremarkable postpartum course and was discharged on post partum day 3. The patient called back two weeks later and thanked the night shift L/D staff members for their care.

OB/GYN CCC Editorial comment

In retrospect, the initial urinalysis with 10 - 30 WBC/hpf was somewhat misleading, but consistent with an inflammatory process adjacent to the ureter and bladder. Microscopic hematuria and pyuria are found in up to one-third of patients with acute appendicitis. Patients with

pyelonephritis will often continue to spike temperatures while they otherwise improve, although this patient's fever curve became increasing atypical for pyelonephritis. Lastly, although the lab result returned after the clinical decision was made to begin cervical ripening and post partum CT scan, the second positive blood culture with a different organism suggested a polymicrobial septic process.

Escherichia coli is the major causative pathogen in both uncomplicated upper and lower urinary tract infection, being present in approximately 70 to 95 percent of cases. *Staphylococcus saprophyticus* is found in 5 to 20 percent of cases of cystitis, or even higher in some studies. It can also cause pyelonephritis. Occasionally other Enterobacteriaceae such as *Proteus mirabilis* and Klebsiella species or enterococci are isolated from the urine of patients with acute pyelonephritis.

A renal abscess is an uncommon infection of the urinary tract. It can develop by one of two general mechanisms: hematogenous spread, which usually results in a cortical abscess; or ascending infection from the bladder, which primarily involves the medulla in most cases. In this patient's case the renal ultrasound was negative.

Appendicitis in Pregnancy

Acute appendicitis is the most common general surgical problem encountered during pregnancy, occurring equally in all trimesters. Estimates of its incidence have ranged from 0.1 to 0.06 percent of deliveries. The clinical features depend upon the stage of pregnancy, which may make diagnosis more difficult than in nonpregnant women. Because the location of the appendix migrates upward with the enlarging uterus, the location of pain or tenderness is variable. Other physiologic changes that occur during pregnancy may also cause confusion. For example, the normal white blood cell count ranges from 6,000 to 16,000 cell/mm³ in the first and second trimesters, and may rise to 20,000 to 30,000 cells/mm³ in labor. Another difficulty arises in the reluctance to expose pregnant women to radiation needed for diagnostic imaging.

These problems were underscored by the variable conclusions reached in a number of series of appendicitis in pregnancy. As an example, in three series with a total of 181 patients with suspected appendicitis, the pattern of presenting complaints, laboratory, and physical examination were unhelpful for establishing the diagnosis. In contrast, a third report comparing clinical features in 28 pregnant women with appendicitis to matched nonpregnant controls found no significant differences in clinical presentation.

Ultrasonography is safe and (as in nonpregnant women) may be helpful for diagnosis. In a series of 45 patients, for example, the sensitivity, specificity, and accuracy were estimated to be 100, 96, and 98 percent, respectively. The gravid uterus prevented adequate sonographic examination of the appendix in only three women, each of whom was near term.

Considering the above studies, and clinical experience, the

diagnosis of appendicitis should be considered in pregnant women complaining of new abdominal pain. The decision to proceed to laparotomy should be based upon the clinical and sonographic features and clinical judgment. The greatest risk is delayed intervention, which increases the risk of perforation. In two retrospective reviews, perforation occurred in 14 to 43 percent of patients. All of these patients had symptoms for longer than 24 hours. In another series that included 333 patients, fetal loss was much more frequent in patients in whom the appendix had perforated (36 versus 1.5 percent, respectively). Given the diagnostic difficulties and significant risk of fetal mortality with perforation, a higher negative laparotomy rate (20 to 35 percent) compared to nonpregnant women has generally been considered to be acceptable.

Maternal morbidity following appendectomy is low except in patients in whom the appendix has perforated. In contrast, pregnancy related complications are frequent, particularly when surgery was performed in the first or second trimester. This was illustrated in a series of 56 women who underwent appendectomy in various trimesters. Spontaneous abortion was observed in 4 of 12 patients (33 percent) who underwent appendectomy in the first trimester while 4 of 28 (14 percent) patients operated on in the second trimester delivered prematurely. No pregnancy complications were observed in women who underwent appendectomy in the third trimester.

Although an appendectomy is usually performed through a transverse incision over the point of maximal tenderness, a midline vertical incision is preferred by some surgeons since it permits adequate exposure of the abdomen for diagnosis and treatment of surgical conditions that mimic appendicitis. It also can be used for a cesarean delivery, if subsequently required for the usual obstetric indications. Dehiscence during vaginal delivery should not be a concern when the fascia has been appropriately reapproximated.

There have been several reports on the use of laparoscopic appendectomy in pregnancy suggesting that such procedures can be performed successfully during all trimesters and with few complications. However, considerable skill is required to perform such procedures in the presence of an enlarged uterus. Although promising, further studies are needed to better document the safety and efficiency of this approach. The long-term prognosis for women who underwent appendectomy is good. Such women do not appear to be at increased risk for infertility or other complications.

Midwives' Corner, Marsha Tahquechi, CNM Shoulder Dystocia.

Shoulder dystocia, although a relatively rare complication of vaginal birth (0.6 - 1.4%), is one of the most dire of obstetric emergencies. Associated with certain risk factors, shoulder dystocia is largely unpredictable in its occurrence and preventability. Shoulder dystocia is described as either the impaction of the anterior shoulder behind the symphysis pubis, or the impaction of the posterior shoulder behind the sacral

promontory. Resulting neonatal morbidities such as permanent brachial plexus injuries and /or mental impairment are one of the leading causes of malpractice litigation. This month's Midwives' Corner reviews shoulder dystocia from a variety of perspectives:

In a recent personal communication with Susan DeJoy, Director of the Midwifery Service at Baystate Medical Center in Springfield Mass, we discussed the history and the origin of the HELPS shoulder dystocia simulator training program. We (Dept Ob/GYN at Baystate Medical Center) developed and implemented a shoulder dystocia simulation training program in spring 2002, entitled HELPS ("call for Help, cut Episiotomy if needed, Legs back, Posterior arm, Suprapubic pressure"). Modeled after other simulations commonly used in health care for rare emergencies (CPR, NNR, ALSO), the training included both theory/didactic and skills practice portions. Emphasis was placed on teamwork, skills development, understanding other team members' roles, patient communication skills and risk reduction. All birth attendants — physicians, midwives, residents, and nurses — were required to attend, and the OB/Gyn Department Chair added certification in HELPS training to requirements for credentialing.

The training program was 1 - 2 hours in length: a short (<30min) overview of essential skills and maneuvers for each member of the team, who was in charge during an event, who needed to respond when help was called for (more on this later). Then the majority of time was spent practicing shoulder dystocia management with "Noelle," a manikin specially designed to teach birth skills. Participants were divided up into teams — provider, nurse, resident — and had to go through a predetermined set of steps to manage the problem, just like what you do in CPR certification. Everyone was then checked out and received a certificate of completion. If you are a credentialed provider here, that certificate needed to be submitted to the medical staff office for recredentialing. Once you have initial certification, you get recertified every two years by watching the CDROM and completing a posttest. A certificate is printed at the end of the posttest which, again, must go to medical staff office for re-credentialing. The office has verification of SD training as another checkbox on their forms, along with license verification, etc.

We discovered several systems issues as we implemented the training. First, when/how to call for help to get the right people to come to the right place. We had an existing "code white" stat page to gather a team in the OR to do a stat section, so we piggy-backed onto that: calling a code white to an LDRP room instead of the OR now means shoulder dystocia, and the code white team's beepers go off and the code white is announced overhead ("Code White, Room 1809"). The team that arrives is the charge nurse, the pod coordinator (another RN on the unit), the OR tech, the house attending, the anesthesia attending and the 3rd and 4th year residents. We also discovered that it was important that the L&D secretaries

knew what this was all about, as they could get lab slips ready for cord gases, etc, call NICU team down, get baby bands ready in case of fast transfer to NICU, etc.

How to do suprapubic pressure correctly. Many providers did not know that the FIRST thing you do is move the baby's shoulders to the oblique diameter; that going after the posterior shoulder was less traumatic than Wood's maneuver; and that episiotomy was not essential.

"Breaking the bed." CNMs generally do not break beds for delivery, but the doctors always break the bed and are somewhat incapacitated when they find the bed not broken. We also had to come to consensus on this. Talking this out really helped. The doctors now understand they might find the bed intact, and if that is a problem, they just say "Break the bed," and it will happen fast. Teaching alternative maneuvers to Wood's maneuver also helped.

The midwives understand that when you call for emergency help, you facilitate what your consultant needs without hesitation or discussion. Having the code white team arrive helps all of this, as there are enough people to do what ever is needed quickly.

OB/GYN CCC Editorial comment

If shoulder dystocia is a concern, some clinicians have empirically advocated immediately proceeding to delivery of the fetal shoulders to maintain the forward momentum of the fetus (see "CCC deliver through" maneuver for shoulder dystocia prevention below). Others support a short delay in delivery of the shoulders, arguing that the endogenous rotational mechanics of the second stage may spontaneously alleviate the obstruction.

The 'CCC deliver through' maneuver for shoulder dystocia prevention is a maneuver to completely avoid shoulder dystocia by continuing the expulsive momentum and delivering the presenting part on through to the visualization of the anterior shoulder without stopping for suctioning the oropharynx, fetal mouth, or nares, and/or to reduce a nuchal cord. If you have any suspicion that the patient may be at risk for shoulder dystocia, then consider the following:

Pre-"CCC Deliver Through" maneuver. First, try to gauge the expulsion of the head for the initial peak of a contraction, e.g., not at the end of third Valsalva maneuver in a 60-90 second contraction in an exhausted parturient. If a regional anesthetic has been utilized, then also make sure that the anesthetic is at a nadir on motor function.

And now "CCC Deliver Through" maneuver. As soon as the head presents itself in the cardinal movements from extension, restitution, and onto external rotation, the provider should continue that momentum with gentle posterior traction toward the rectum on the fetal parietal bones until you clearly see delivery of the fetal anterior shoulder emerging from beneath the symphysis. Alternately one hand can be over the face and the other hand on the occiput to continue the momentum. At this time ask the mother to pant while you

suction the infant as needed, or reduce any obstructing elements of the umbilical cord. Then ask the patient to continue to bear down gently and deliver the posterior shoulder and body.

Please note, this is unlike what some classic obstetrics texts recommend for the normal course of delivery of the fetal head. The main difference is that you do not halt the momentum after restitution or external rotation to suction the oropharynx. Also you do not halt the momentum to reduce a nuchal cord unless it is critically tight. Both suctioning and movement of the cord can be completed after delivery of the anterior shoulder.

After delivery of the anterior shoulder, then continue as you would normally, e.g., ask the mother to pant while you suction the oropharynx or manipulate the cord, then direct the fetal body anteriorly until the posterior shoulder passes the perineum to accomplish complete delivery. Please protect the perineum as you complete the delivery process after delivery of the anterior shoulder.

Once the head is out of the vagina, the head restitutes and the neck untwists. After a few moments, external rotation takes place as the shoulders move from the oblique to the anteroposterior diameter of the pelvis. One possible advantage is, if the "CCC Deliver Through" maneuver is done quickly enough, the accoucheur may deliver the anterior shoulder before the shoulders reach the full anteroposterior diameter of the pelvis that they achieve when external rotation occurs.

One caveat. While this maneuver seems to work 100% of the time in our less than random sample, we should be skeptical of anything that seems to work so well. A random sample of ~10 providers on L/D had heard of it, and many did it when they suspected shoulder dystocia was an imminent risk. In fact, it was so common that no one had a name for it — it was an unnamed automatic reflex. In addition, it seems to be used more commonly as the incidence of heavy parturients increases.

Would the 'CCC Deliver Through' maneuver increase perineal trauma? My experience with many, many deliveries the old way includes a few hundred 2nd degree lacerations (?10%) with the rare 3rd - 4th degree laceration during delivery of the head or the posterior shoulder. Yet, lacerations occurring during the delivery of the anterior shoulder, *per se*, would be very rare — for a ratio of ~ 0 - 1/1000+. As the "CCC Deliver Through" maneuver simply suggests that once the head is delivered, just do not stop to suction the oropharynx or reduce the cord until you have the anterior shoulder out, and then do everything else the same, the impact on perineal lacerations is probably closer to nil.

A better argument against this maneuver is that it is unstudied; e.g., perhaps just by the fact that one could perform the "CCC Deliver Through" maneuver at all meant that the shoulder dystocia was not going to occur anyway, or that the development of the true shoulder dystocia geometry would not allow one to deliver through to the anterior shoulder,

regardless. On the other hand, it may be more like the insurance business: if you have an expensive flood policy, then you'll never even see a heavy drizzle.

Navajo News; Jean Howe, Chinle

Depo-Provera in a lower dose: limited data to assess 104mg SQ vs. 150mg IM.

After the recent dramatic shifts in available information about the contraceptive patch, it is with some trepidation that I again address a hormonal contraceptive topic. But similar shifting sands of popularity and concern affect Depo-Provera and warrant ongoing attention.

Depo-Provera (depot medroxyprogesterone acetate or DMPA given 150 mg IM every 12 weeks) was first approved for use in the United States by the FDA in 1992. This approval came after many years of widespread international use, and DMPA quickly became popular in the U.S. as well. One issue that has limited its popularity is the weight gain often associated with DMPA use. The product information states that from an average initial body weight of 136 pounds, women gained an average of 5.4 pounds with one year of use, 8.1 pounds with two years of use, 13.8 pounds with four years of use, and 16.5 pounds with six years of use. A study done at Shiprock by Espey, et al, compared 172 women who used DMPA for one or two years with 134 women who used a non-progestin-based method or no method. The women using DMPA gained an average of six pounds more than the comparison group with one year of use and 11 pounds more with two years of use, thus suggesting that the weight gain issues may be even more significant with DMPA for Navajo women. DMPA use may thus indirectly increase the risk of diabetes and other health problems associated with obesity.

A more recent concern about DMPA is that the bone loss associated with long-term use may not completely resolve after DMPA is discontinued. These concerns have resulted in the addition of a "black box" warning recommending that use be limited to two years unless other forms of birth control are inadequate. Strategies to address these concerns are outlined in the January 2005 CCC Corner. The two year restriction remains controversial. In June 2005, the World Health Organization issued a statement on Hormonal Contraception and Bone Health recommending that:

- There should be no restriction on the use of DMPA, including no restriction on duration of use, among women aged 18 to 45 who are otherwise eligible to use the method.
- Among adolescents (menarche to <18) and women over 45, the advantages of using DMPA generally outweigh the theoretical safety concerns regarding fracture risk. Since data are insufficient to determine if this is the case with long-term use among these age groups, the overall risks and benefits for continuing use of the method should be reconsidered over time with the individual user.

Despite concerns about weight gain and bone health, DMPA remains a preferred contraceptive for many Navajo women. Thus, any improvement in the side effect profile would be important. In December 2004, the FDA approved marketing of a lower dose formulation of DMPA, under the name "depo-subQ provera 104" (DMPA-SC). It contains 30.7% less medroxyprogesterone acetate and is administered subcutaneously into the anterior thigh or abdominal wall. The product information describes three clinical trials where the weight gain averaged 3.5 pounds in the first year of use. A smaller comparison trial showed similar weight gain to DMPA-IM (7.5 vs. 7.6 pounds). The "black box" warning about bone loss is identical although this issue does not seem to have been studied yet in DMPA-SC. The subcutaneous formulation is believed to provide slower absorption with a lower early peak in dose and a lower total dose delivered; whether this will be shown to result in a lower side effect profile is not yet known. The SC and IM formulations are different and cannot be used interchangeably. One of the most interesting features of DMPA-SC is that patient self-administration may be possible; this would be a potential benefit to the many patients who find it difficult to keep clinic appointments every 12 weeks. In March 2005, DMPA-SC was approved by the FDA for the treatment of endometriosis pain.

Alas, a lower dose does not mean a lower cost. Local pricing inquiries revealed the following:

Depo-Provera 150mg IM prefilled syringe: \$32.34
Depo-Provera 104mg SQ prefilled syringe: \$48.85

This compares to an average cost locally of \$4 to \$29 for 12 weeks of OCPs, \$66 for 12 weeks of Ortho-Evra patches, \$262 for a Mirena IUD, or \$40 for a Paraguard IUD. Whether the 50% increase in price for a 31% decrease in dose is a worthwhile investment will depend on additional studies of weight gain, bone density, and other issues. It may be especially valued by some women who are willing to self-administer DMPA-SC and find it burdensome to come to clinic every 12 weeks.

Jain J, Dutton C, Nicosia A, Wajszczuk C, Bode FR, Mishell DR. Pharmacokinetics, ovulation suppression and return to ovulation following a lower dose subcutaneous formulation of Depo-Provera. *Contraception*. 2004. 70:11-18.

Jain J, Jakimiuk AJ, Bode FR, Ross D, and Kaunitz AM. Contraceptive efficacy and safety of DMPA-S. *Contraception*. 2004 70:269-275.

Lakha F, Henderson C, Glasier A. The acceptability of self-administration of subcutaneous Depo-Provera. *Contraception*. 2005. 72:14-18.



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

“There are two tragedies in life. One is to lose your heart’s desire. The other is to gain it.”

George Bernard Shaw

Articles of Interest

A head-to-head comparison: “clean-void” bag versus catheter urinalysis in the diagnosis of urinary tract infection in young children. *J Pediatr.* 2005 Oct;147(4):451-6. http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=Select+from+History&db=pubmed&query_key=2

- A comparison of the validity of the urinalysis of clean voided bag specimens versus catheter obtained specimens in non-toilet trained children < 3 years of age
- Surprisingly, the bag specimens were more sensitive than catheterized specimens (85% versus 71%)
- Sensitivity was lower for both bag and catheter specimens in children < 90 days old (69% and 46%)
- Specificity was consistently lower for bag specimens than catheter samples (62% versus 97%)
- The authors conclude that for low risk children a bag specimen could be used as a screening test to determine which infants need to undergo catheterization for culture

Choice of urine collection methods for the diagnosis of urinary tract infection in young, febrile infants. *Arch Pediatr Adolesc Med.* 2005 Oct;159(10):915-22. <http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?CMD=search&DB=pubmed>

- This is a report from the *Pediatric Research in Office Settings* Febrile Infant Study
- A survey of the workup of 3066 infants < 90 days with a temperature > 38 C who presented to pediatric offices. Care was at the discretion of each provider
- Only 54% of infants had a urinalysis done at all
- Bag specimens were as sensitive as catheterized specimens but less specific
- Infection rates were similar in bag specimens (8.5%) versus catheterized specimens (10.8%)
- False positive cultures for bag urine cultures were reduced by defining many culture results as “ambiguous” (7%). Ambiguous cultures were defined as having > 1 organism, non pathogenic bacteria, or colony counts <1,000/cc

- The authors conclude that bag specimens are suitable for urine culture if practitioners do not treat ambiguous results as true UTI

Editorial Comment

These articles are full of angst about transurethral catheterization. In both studies the authors regard urinary catheterization as very traumatic to patients and their parents. The authors also state that catheterization is technically difficult and unavailable in many offices, which I found surprising. In this era of infant HIB and Pneumococcal vaccines, UTIs are the most common serious bacterial infections in children. We should try and diagnose them correctly.

The first step is to obtain urine when indicated. It was surprising that only 50% of febrile infants < 90 days had urine obtained when presenting to an office setting. Even a bag specimen would be better than nothing, recognizing that the urinalysis has a much lower sensitivity in infants < 90 days. The second problem is that a bag specimen that is falsely positive in this young age group may lead to hospitalization. The needless hospitalization will not be sorted out until 48 hours later with a negative culture or an “ambiguous” culture that is defined as negative.

It seems reasonable to obtain catheterized specimens on all children < 90 days in which a high degree of specificity is required to avoid unnecessary hospitalization. For children > 1 year of age, without a previous UTI, a bag specimen might be an acceptable screening tool. Between 90 days and 1 year of age, I would favor catheterization, but each practitioner will need to make their own determination based on the risk/benefit to the patient and their clinic’s skill at catheterization. More important than the method of urine collection is the acknowledgement that a urine sample must be obtained in young children who are highly febrile and have no identifiable source for their fever.

Infectious Disease Updates; Rosalyn Singleton, MD, MPH Making sense of the 2006 Immunization Schedule

The 2006 Immunization Schedule is now available at <http://www.cdc.gov/mmwr/pdf/wk/mm5451-Immunization.pdf>. True to form, the new schedule looks to be even more complex than 2005. While our eyes are crossing over the many columns and colored bars, how do we decide on the essentials?

Here's a schedule that reflects some IHS priorities – they may differ slightly for you.

Birth	Birth dose of hep B is a great safety net to prevent vertical transmission
2 months	DTaP, IPV, HepB, Hib, PCV7. We give the 3 P's: Pediarix™, Pedvax®, Prevnar®
4 months	DTaP, IPV, Hib, PCV7. We give the 3 P's; extra dose of Hep B is ok
6 months	DTaP, IPV, HepB, PCV7. We give the 2 P's: Pediarix™ and Prevnar®
12 months	Hib, MMR, Var, PCV7 (now there's MMR-V)
15 months	DTaP, HepA; both can be given as early as 12 months, but that's a lot of shots
24 months	(or any visit at least 6 months after the first Hep A) - Hep A 2
4-6 years	DTaP, IPV, MMR
11-12 years	Tdap, Menactra™ (depending on supply)

Other issues:

1. Because of high risk of early Hib disease, PedvaxHIB is the preferred product for Hib vaccination in Native Americans. It is the only Hib vaccine that produces protective titers after the first dose. In Alaska, a change to Hibtiter in 1996 resulted in increased Hib cases in partially vaccinated children.
2. Recommend booster doses of Hib and PCV7 at 12 months since titers fall rapidly after primary series and breakthrough cases have occurred.
3. Influenza at any visit for 6-23 month olds – 2nd dose the first year.
4. Tdap was just licensed for adults as well as adolescents and can be given as early as 2 years after a Td vaccine in the event of an outbreak.

Recent literature on American Indian/Alaskan Native Health; Doug Esposito, MD

Beyond Red Lake — the persistent crisis in American Indian health care. *N Engl J Med.* 2005;353:1881-3. http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=Retrieve&db=pubmed&dopt=Abstract&list_uids=16267317&query_hl=1&itool=pubmed_docsum

The author, who is an American Indian physician, describes many of the disparities in socioeconomic and health status and access to services faced by AI/AN populations living on reservations, in very personal terms. This is a short article restating what all of us working in Indian health already know. Nevertheless, it's worth reading, as is the commentary by David Grossman, MD, cited below, which focuses more on the plight of the urban off-reservation Indian.

Measuring disparity among American Indians and Alaska Natives; who's counting whom? *Med Care.* 2003;41(5):579-81. http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=Retrieve&db=pubmed&dopt=Abstract&list_uids=12719680&query_hl=65&itool=pubmed_DocSum

American Indians and suicide: a neglected area of research. *Trauma Violence Abuse.* 2006 Jan;7(1):19-33. http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=Retrieve&db=pubmed&dopt=Abstract&list_uids=16332979&query_hl=1&itool=pubmed_DocSum

The authors review the available literature, embellished with information from personal communications with experts and leaders in the field, to paint a picture of the current status of suicide in AI/AN communities. Although the term "suicide" appears in the title, this paper is actually more of a review of the overall state of knowledge and service (or, more correctly, under service) of mental and behavioral health issues in general for the specified population. This is a well done paper, and a valuable resource for anyone interested in planning suicide studies or interventions among AI/AN populations, or for anyone just interested in understanding the scope of the mental and behavioral health issues and needs of Native Americans.

Follow-up

In follow-up to my review of the subject of Pediatric Oral Health Therapists for American Indian/Alaska Native children in October (<http://www.ihs.gov/MedicalPrograms/MCH/C/documents/ICHN1005.doc>), I would like to point out a few commentaries that appeared in the December 2005 issue of the *American Journal of Public Health*.

Improving the oral health of Alaska natives. *Am J Public Health.* 2005;95(11):1880. http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=Retrieve&db=pubmed&dopt=Abstract&list_uids=16195503&query_hl=46&itool=pubmed_docsum

APHA presidents support dental therapists. *Am J Public Health.* 2005;95(11):1880-1. http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=Retrieve&db=pubmed&dopt=Abstract&list_uids=16195502&query_hl=48&itool=pubmed_docsum

Sekiguchi et al respond. *Am J Public Health.* 2005;95(11):1881. http://www.ajph.org/cgi/search?sortspec=relevance&author1=sekiguchi&fulltext=&pubdate_year=&volume=&firstpage

Announcements from the AAP Indian Health Special Interest Group

Sunnah Kim, MS

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. AAP website or 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>.

