

the Rheumatologist

An official publication of the ACR and the ARHP serving rheumatologists and rheumatology health professionals

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OCTOBER 2007

page 16

A BETTER FAMILY PLAN

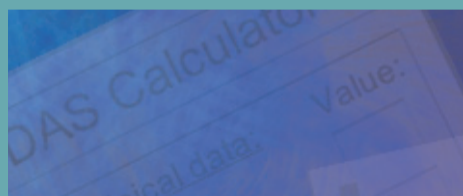
How to minimize the risks of pregnancy for women with SLE

>> By Megan E.B. Clowse, MD, MPH

As women with systemic lupus erythematosus (SLE) live longer and healthier lives, more and more are asking whether they can or should become pregnant. Forty years ago, a rheumatologist would have been correct to discourage a woman with SLE who wanted to have a child; the rate of pregnancy loss for a woman with SLE was more than 40% at that time. In recent years, however, the success rate of SLE pregnancies has increased significantly. Currently, the risk of pregnancy loss for someone with SLE is roughly equivalent to that of a healthy woman.¹ However, pregnancy in a woman with SLE is not always without complication. **continued on page 16**

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MAKE RA OUTCOMES MEASURES WORK FOR YOU



Expert tips for collecting and analyzing RA patient data

>> By Heather Lindsey

Outcomes measures are valuable tools for rheumatologists to assess the health status of patients with RA and they can improve clinical practice efficiency. However, deciding which measures to use—in addition to collecting and analyzing data—is a challenge. Fortunately, there are a number of strategies that can make the process worthwhile.

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Education BEYOND the Classroom

The Committee on Education provides the resources you need to keep up to date

>> By Jane Jerrard

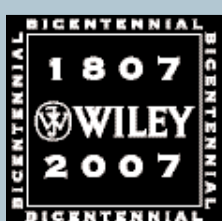
This is the third in a series of articles profiling the committees of the ACR.

One of the primary services that the ACR provides to members, and to rheumatologists and rheumatology health professionals in general, is ongoing education. Many of the meetings you attend, the resources to help you prepare for exams, and the products you use to learn (or teach) new knowledge come from the ACR Committee on Education.

Rosalind Ramsey-Goldman, MD, DrPH, professor in the division of rheumatology at the Feinberg School of Medicine of Northwestern University in Chicago became the chair of the Committee on Education at the 2006 Annual Scientific Meeting. "My pedigree for that is that I was chair of the professional meetings subcommittee for two years, and previously a member of that subcommittee," she says. "As the subcommittee chair, I participated in the Committee on Education meetings." **continued on page 19**

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Let's Talk Tech

As microchips permeate medicine, our new council will spearhead electronic initiatives >> By Neal S. Birnbaum, MD

As a rheumatologist, it's likely that most of your technology-related discussions revolve around electronic health records, voice dictation software, database management, or similar practice topics. Maybe you dabble in online forums, fancy yourself a

bit of a Photoshop wizard, or even blog. Still, like me, you've probably begun to see how technology is permeating (or invading, take your pick) nearly every aspect of our personal *and* professional lives. It's a challenge to keep up with what's new and emerg-

Birnbaum's Bookmarks: E-picks from the President

I've often felt that the world is divided into those people who grew up playing pinball machines and those who grew up playing Pac-Man. As a member of the pinball generation, I am envious of my daughters who can accurately keyboard at 100 words per minute while simultaneously listening to music on their iPod, watching television, and talking on their cell phone. While I still find myself looking at the keyboard while typing, I have certainly adopted many aspects of computer technology.

EASY E-MAIL: I can't imagine being ACR president without the ability to rapidly exchange e-mails with the other executive committee members and ACR staff. On the other hand, I don't use e-mail to communicate with patients because I think there is much to be learned by hearing the tone and inflection in someone's voice.

While I have yet to see a truly paperless electronic medical record that would save time for a slow typist like myself, I appreciate the ability to rapidly access lab and radiology results from the hospital, and my staff couldn't function without electronic billing.

SLICK SEARCHES: I'm continually amazed by the power of Google. I no longer use PubMed or other medical search engines. I have bought very few new textbooks since subscribing to UpToDate. However, I still prefer paper copies of journals to reading off the computer screen.

PERFECT PHOTOS: In my personal life, I switched to digital photography several years ago. I like not having to carry rolls of film on trips and the ability to instantly see (and often delete) the pictures I have taken. Of course, I still haven't learned how to do anything more than rudimentary editing with Photoshop.

TRAVEL TECH: As a frequent traveler, I rely on Web sites like kayak.com, travelocity.com, and orbitz.com to research the best available flights. On the other hand, I prefer talking to a live reservations clerk to be reassured that I'm actually making the best plans.

Tripadvisor.com is excellent for hotel recommendations anywhere in the world and has links to hotels.com and similar sites. I frequently use opentable.com for restaurant reservations.

It's hard to imagine life today without a computer and even harder to believe that I started my practice thirty years ago before fax machines, cellular phones, laser printers, and high-speed color copiers. All too often I find myself struggling to understand and utilize some aspect of technology. Of course, I always know what to do—I call one of my daughters for help!

Like me, you've probably begun to see how technology is permeating (or invading, take your pick) nearly every aspect of our personal *and* professional lives.

ing—and what areas could benefit from technological tools. Much like exploring how therapies effective for one condition might be viable for treating another, it's a challenge to figure out how technology applied in one area can be beneficial elsewhere.

Like most organizations, the ACR has leveraged technology to improve our day-to-day operations as well as member services. For example, you can access the journals and other publications, register for meetings, submit an abstract, download patient information and practice tools, and renew your membership online. You can also view Webcasts from our meetings, subscribe to various ACR/ARHP list serves, participate in our online recertification and maintenance of certification offerings, and search for jobs. Still, we continue to face a number of technological challenges in areas such as practice management, practice improvement, quality measurement, cost management, education, and recertification. The ACR also continually implements new internal technologies—such as our new association management system.

TLC for Rheumatologists

To coordinate these diverse technology projects and help our members (particularly those in practice) understand the rheumatology-specific issues surrounding technology, we've created the Technology Leadership Council (TLC). Its charge is to coordinate and facilitate optimal use of information technology by members, staff, and volunteers so that the ACR can

meet its strategic goals and members' needs effectively.

The TLC will coordinate (rather than implement) work done by other ACR entities to ensure interoperability, prevent overlap of effort, promote optimal use of ACR resources, and maintain transparency within the organization, while also ensuring compatibility with established information technology standards, principles, and laws. The TLC will have a consultative and coordinating role in ACR information technology projects, such as data collection, implementation of quality instruments, and electronic patient records. It will be divided into five working groups—quality, research, practice, education, and general technology—so that members can focus on issues pertinent to their expertise. ACR Vice President Sherine Gabriel, MD, has agreed to chair the TLC and will be joined by several volunteers and staff who have an interest in this area.

We have a number of exciting technology-related projects in the works, many of them in the initial planning stages and not quite ready for prime time. You'll learn more about these projects in the months ahead. If you have suggestions about technology-related efforts you'd like to see the ACR pursue, please contact me. I welcome your ideas.

THE RHEUMATOLOGIST

Dr. Birnbaum is president of ACR. Contact him via e-mail at birnbaum@rheumatology.org.

the Rheumatologist

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February 25-26, 2008
Washington, DC

- Discuss legislation that affects YOU with Members of Congress
- Attend forums with officials from the Department of Health & Human Services
- Converse with colleagues and patients on legislative concerns
- Involve yourself with ACR grassroots advocacy

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Stop by the Advocacy Booth during the 2007 Annual Meeting and learn about ACR Advocacy! ACR has established new advocacy activities and have improved existing programs.

- Legislative Action Center Contact Congress!
- Advocates for Arthritis, February 25-26, 2008 in Washington, DC
- Legislative Briefing, September, Washington, DC
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- Congress-to-the College Visits
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- Discuss Legislative Issues with ACR Government Affairs Staff

ACR/ARHP 07
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Know Your Unknown Unknowns

Making life-or-death decisions based on unknown information is the challenge of medicine >> David S. Pisetsky, MD, PhD

During a press conference in 2002, then Secretary of Defense Donald Rumsfeld provided a categorization of information. To Rumsfeld, information could be divided into three types: known knowns, which are things that we know we know; known unknowns, which are things that we know we don't know; and unknown unknowns, which are things that we don't know we don't know.

This categorization has been much discussed (as well as criticized, touted, and mocked, depending upon your point of view). While history will ultimately judge the wisdom of Rumsfeld's policies, I am convinced that, when it comes to medicine, there is truth in his thinking. Indeed, I believe that dealing with unknowns—both known and unknown—is at the heart of medical practice and successful patient care comes from learning to make decisions in the face of the uncertain, the imprecise, and the imponderable.

To illustrate this point, I would like to describe a case. This case is a classic example of known and unknown unknowns, and I want your

opinion on its management. As you will see, this case is tricky because the rheumatologist was an adviser and not the decider.

Complex Case with a Surprise Twist

The case involved a woman in her 70s who had the usual set of medical conditions that comes with age. Her major complaint was ill-defined chest pain that led to an extensive cardiovascular work-up, which showed that, while her coronary arteries had the slightest occlusions, her thoracic aorta had a worrisome dilation. The surgeons were consulted. They diagnosed an aneurysm of the ascending thoracic aorta and, with abundant cutting and sewing skill, they replaced the troubled aortic segment with a fine new graft.

The diseased aorta—dunked immediately in a jar of formalin—made its way to the pathology department, where the findings were as dramatic as they were unexpected. Under the microscope, in the red and blue hues that are the hallmark colors of hematoxylin and eosin, the aorta was filled with inflammatory cells. Among their number, these cells included some hefty-looking giant cells filled with more than their share of nuclei. The diagnosis was clear: giant cell arteritis (GCA) of the aorta.

With the pathological diagnosis in hand, the surgeons consulted the rheumatology service for our recommendation. Our fellow saw the patient and, during a very thorough exam and methodical history, elicited none of the telltale symptoms of GCA: no throbbing headache, no scorching scalp pain, no curtains of darkness falling across the eyes. Certainly, the patient had her share of misery, but none that could point to vasculitis. Nevertheless, our service, worried that vasculitis could darken her vision forever or menace an artery to the brain, recommended an immediate course of steroids. We wanted the real deal: 1 mg/kg jet-sprayed into the IV that was still in place post-op.

Our surgical colleagues, however, demurred on this course of action. Too many steroids, they said, and far too soon. In a conference outside the patient's room, the surgeons said that a new graft in the aorta needs time to settle in, a process that should be unperturbed by steroids. Also, there were wounds to close and, the sharp-eyed surgical chief resident said, casting a baleful eye on our group, "You know what steroids do to

wounds." Of course we knew. They make them break and leak. While vasculitis may be bad, a dehiscence could be worse was the surgeon's clear message.

Two Opinions and No Right Answer

The fellow involved in this case is very diligent. She scoured the literature to find evidence to resolve this dilemma and put real numbers and probabilities on the concerns of both the rheumatologists and thoracic surgeons. Evidence is wonderful but it often seems like the pot of gold at the end of the rainbow—something you search for but never find.

Suffice it to say that no study the fellow pursued provided the answer. There were no known knowns in this field: no decisive information on the course of GCA presenting in the aorta, the chance blindness would occur if left untreated, or the chance steroids would impair wound healing. The probabilities of outcomes were—at best—a guess. No better than tossing a dart at a map to determine where to go.

I could list the known unknowns and unknown unknowns in this case and, as we discovered in our research and discussions, there were even unknown knowns. Unknown knowns are things that we should have known but didn't. The unknowns, however, were paramount and can be reduced to a simple question: How likely were these events?

To our consulting service, the job was twofold: Convey the urgency to treat vasculitis and reassure the surgeon that a short burst of steroids would not disturb the healing of the graft and make the surgeon's handiwork an exercise in futility.

I will not reveal the outcome of the discussion that ensued because—on both sides—it was ultimately based on personal assessments of known unknowns and unknown unknowns. To the rheumatologist, the consequences of untreated vasculitis are dire: blindness, stroke, and infarction. To the surgeon, the consequences of poor wound healing are equally bad, with an aortic graft blowing out at the top of the list.

Rumsfeld was not famous for listening to other people's opinions. You do not have to be a politician like Lloyd Bentsen to look at me and say, "I knew Donald Rumsfeld and, David, you are no Donald Rumsfeld." I want your opinion, Dear Reader, and hope you write in to me at piset001@mc.duke.edu.

I will give you a choice of topics, although you could write on both. Here they are: 1) In the face of evidence of GCA in the aorta, would you recommend glucocorticoid therapy in the post-op period? If yes, why? If no, why not? 2) If you recommended steroids and the surgeons were reluctant, how would you convince them to change their mind and start treatment right away? What evidence would you cite?

I promise that *The Rheumatologist* will print as many of answers we receive as possible.

I will make another promise. I will not give a press conference on my views. | THE RHEUMATOLOGIST |

Dr. Pisetsky is physician editor of *The Rheumatologist* and professor of medicine and immunology at Duke University Medical Center in Durham, N.C.

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From the COLLEGE

NEWS FROM THE ACR AND THE ARHP

ANNUAL MEETING

Enhanced Opportunities at the 2007 Meeting

The 2007 ACR/ARHP Scientific Meeting will offer pioneering research, outstanding clinical sessions, innovative special-interest forums, and increased opportunities for interaction. The 2007 pro-

gram includes greater variety and more concurrent sessions than ever before and remains the most comprehensive and diverse international gathering of physicians, scientists, and healthcare professionals devoted to rheumatology.

Basic Science Goes To Boston

The ACR/ARHP Annual Meeting Planning Commit-

tee (AMPC) is providing a broad selection of basic science for the 2007 Annual Scientific Meeting in Boston this November. The AMPC remains focused on keeping basic researchers ahead of the curve and expects this year's meeting to bring more translational components to both clinical and basic science symposia.

"There is a mixture of hot and emerging topics, such as ion channels and bioimaging," explains

Brian F. Mandell, MD, PhD, chair of the AMPC, “as well as up-to-date reviews of topics that are of increasingly broad interest.”

The AMPC is using more translational components as a way of increasing the basic scientist’s interaction with clinicians, he explains. In keeping with this, the meeting will offer sessions on osteoclasts, implications for the development and treatment of osteoarthritis, T-cell subsets, and a year in review—all of which will be of interest to both the clinician and the basic researcher.

Dr. Mandell is particularly excited about the speakers in this year’s program. “We have several truly high-visibility speakers, and we have expanded the venue for several of our rheumatology research award winners,” he says. “We are extremely fortunate to have Dr. Philip Sharp, a Nobel Laureate, delivering a talk on microRNAs, and Dr. Judah Folkman, a legendary researcher in angiogenesis, presenting an introductory talk at our abstract mini-symposium on angiogenesis, cell to cell adhesion, migration, and vascular biology in arthritis and inflammation.”

Additionally, the recipient of the Arthritis Foundation’s Lee C. Howley, Sr. Prize for Arthritis Research, Gary Firestein, MD, will introduce a mini-symposium, “RA Pathogenesis: Molecular Mechanisms” with a lecture on new therapeutic targets in RA.

The AMPC has also invited the ACR Research and Education Foundation (REF) lecture recipients, Judith James, MD; Regis O’Keefe, MD, PhD; Steven L. Teitelbaum, MD; and Paul H. Plotz, MD, in the areas of lupus, orthopedics, bone research, and research contributions to rheumatology, respectively, to pres-

ent lectures within sessions of related areas.

“This should provide enjoyable and instructive sessions for senior researchers and novices alike,” says Dr. Mandell.

To maximize opportunity, attendees will be able to participate in sessions without missing other topics of interest running concurrently. “We plan for the first time to offer taped replays of the clinical sessions in our encore theater,” notes Dr. Mandell. “We hope this will enable clinicians who also have basic science interest to attend the science sessions in person, participating in the live dialogue, without missing out on their clinical reviews.”

With the basic science symposia, state-of-the-art lectures, and additional opportunities to interact with clinicians, basic researchers will have a packed schedule at this year’s meeting. For more information on the Annual Scientific Meeting, visit www.rheumatology.org/annual.

CORC Forum Will Focus on Practice Support

Faced with the incredibly complex and rapidly changing field of rheumatology, practicing physicians need tools to build stronger, more profitable practices. To meet this need, the ACR is gathering leading healthcare specialists at the ACR Committee on Rheumatologic Care (CORC) Forum during this year’s annual meeting. The forum, “Building a Stronger Physician Practice,” will take place on Friday, November 9, from 2:30–4 p.m., and will cover:

- > Purchasing malpractice insurance;
- > Using clinical research studies to increase your bottom line; and
- > Increasing profitability by integrating nurse practitioners and physician’s assistants into a rheumatology practice.

The forum speakers are experts in their fields and will share their knowledge and experiences in an informal and comfortable setting. Scheduled speaker Robert Conroy is a veteran presenter at the ACR annual meetings and is recognized as an authority on healthcare law. Conroy is the former chief of New York City’s Medical Malpractice Unit and founding director of the New Jersey State Bar Association’s Health and Hospital Law Section. Conroy’s presentation will focus on the Medicare audit process, ways to respond, and your rights when faced with an audit.

According to CORC Chair Eileen Moynihan, MD, CORC’s goal is to ensure continuous practice support. CORC “has worked diligently to create this informative forum for practicing physicians,” she says. “We strongly believe that these topics will be relevant to the ACR membership at large.”

For more information, contact Antanya Chung, CPC, CCP, ACR director of practice management, at (404) 633-3777 ext. 818 or achung@rheumatology.org.

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CODING CORNER!

October’s coding challenge:

A 65-year-old male diagnosed with chronic inflammatory demyelinating polyneuropathy is scheduled for a follow-up visit for an intravenous immune globulin (IVIg) infusion.

The patient advises the physician that he is also having minor joint pain in his left knee. The physician performs a detailed history and an expanded, problem-focused examination. The physician’s notes support medical decision-making of moderate complexity.

The IVIg infusion duration is three hours and 38 minutes. The patient is infused with 25 grams of Octagam, and one 250-cc bag of normal saline is used to establish venous access. How should this office visit be coded? **See page 11 for the answer.**

ACR Recertification Tools

The ACR has several recertification courses designed specifically to help rheumatologists complete the maintenance of certification process. These include:

AIM:

- > Web-based, self-evaluation practice performance tool;
- > Geared toward rheumatologists preparing for the ABIM Rheumatology Recertification Exam;
- > RA module available now; and
- > Registration for gout module will begin in November.

CARE:

- > Web-based self assessment program;
- > Primarily designed to assess the rheumatology knowledge base of physicians;
- > Developed using the ABIM's rheumatology exam blueprint; and
- > The 2006 and 2007 programs are available now.

Rheumatology Board Recertification Exam Preparation Course:

- > Designed to meet the needs of rheumatologists preparing for the ABIM Recertification Exam; and
- > Next available course will be March 7–9, 2008, in Atlanta.

Each program is designed to improve the quality of care delivered to patients. Additionally, these courses offer Maintenance of Certification points and AMA PRA Category 1 Credits.

Completing the Puzzle: 2007 ARHP Clinical Focus Course

When doing a jigsaw puzzle, a person will work—piece by piece—to complete the task. As each piece fits into the proper place, the puzzle solver gains a clearer picture of the final outcome. This picture keeps the puzzle solver coming back for more.

One of the factors that draws health professionals to rheumatology is that the diagnosis is not always immediately evident. Obtaining history, performing physical exams, collecting and reviewing data, and communicating with the patient provide just a few of the pieces of the puzzle clinicians must put together when serving those who have rheumatic conditions. Collecting puzzle pieces involves more than the musculoskeletal system. In fact, all organ systems must be considered.

The 2006 Annual Scientific Meeting included lectures reviewing the cardiovascular, pulmonary, renal, neurologic, ophthalmic, and dermatologic aspects of rheumatic disease. Based on attendee feedback, the 2007 course, "Completing the Puzzle: Other Aspects of Rheumatic Diseases," was developed to follow the same pattern and will benefit those rheumatology puzzle solvers who want to enhance their knowledge and improve their care of both adult and pediatric patients with rheumatic diseases.

The course was specifically designed for nurses, nurse practitioners, and physician assistants, but all interested clinicians are invited to attend.

By completing this course, attendees should gain knowledge to help them put together their patient puzzle, including learning to recognize clinical manifestations and complications, select appropriate laboratory and radiographic studies, analyze data, and propose, apply, and manage pharmacologic and non-pharmacologic treatments for rheumatic diseases.

In addition, CME and Certificate of Participation credit is being offered for the first time to those who attend.

The course will be held Wednesday, November 7, from 7:30 a.m.–4:30 p.m. Because this is a pre-conference course, there is an additional fee for participation. To register, visit www.rheumatology.org/arhp/index.asp.

With the return of attendee favorites and the addition of new sessions and features, the 2007 ACR/ARHP Scientific Meeting is the premier event for specialists in the field of rheumatology. For more information and to learn how you can join an estimated 10,000 professionals in Boston November 6–11, visit www.rheumatology.org/annual.

PRACTICE UPDATES

Consultation or Referral? That Is the Question

One of the most troublesome coding decisions is determining whether a visit is a consultation or a referral. To avoid the hassle of incorrect coding, one must first understand the difference between a consultation and a referral.

A consultation is a rendering of advice, or professional opinion, followed by a report of any findings to the referring physician. This visit typically results in the patient returning to the primary care physician (PCP) who initiated care. If, following the consultation, the consulting physician decides to treat the patient, he or she may bill the first visit as a consult. Any visits after the original consultation should be billed as an established patient.

Conversely, a referral is a request to see a certain type of physician; it most likely is the result of insurance requirements for seeing a specialist. This visit must be billed as a new patient visit. For example, when a patient has an HMO plan, he or she cannot see any other physicians until the PCP has been seen. The PCP then acts as a gatekeeper for the patient's medical care and provides the referrals needed to see other physicians.

Recently, the number of practices being audited for their consultation visits has been on the rise. As a result of these audits, practices are being fined for not having enough documentation to support the merit of coding the visit as a consultation, rather than a new patient visit.

"While the rise of audits may not be pleasant news, the ACR always offers members accurate and up-to-date information on coding guidelines," says ACR professional coder Melesia Tillman, CPC, CCP, of recent inquires into the auditing process.

To help you document consults, the ACR provides template letters (download them at www.rheumatology.org under the "Practice Support" menu).

For more information on consultations, referrals, and audits, visit www.rheumatology.org, or contact Melesia Tillman, CPC, CCP, at (404) 633-3777, or by e-mail at mtillman@rheumatology.org.

ADVOCACY ALERT

Urge Congress to Support the Arthritis Act

The ACR strongly urges Congress to enact the "Arthritis Prevention, Control, and Cure Act of 2007" (S. 626/H.R.1283), introduced by Senators

Edward Kennedy (D-Mass.) and Christopher Bond (R-Mo.) and Representatives Anna Eshoo (D-Calif.) and Chip Pickering (R-Miss.).

This legislation would enhance rheumatic disease research and public awareness of these often debilitating diseases by:

- > Implementing a national arthritis action plan to enhance support for federal- and state-level public health activities and outreach programs to prevent and manage arthritis;
- > Developing a national education and outreach campaign to teach healthcare professionals and the public successful self-management strategies for controlling arthritis;
- > Establishing a coordinating committee to oversee all national research institutes conducting research on arthritis and rheumatic diseases;
- > Ensuring greater coordination and intensification of federal research efforts by organizing a National Arthritis and Rheumatic Diseases Summit to examine challenges and opportunities related to basic, clinical, and translational research and development efforts;
- > Increasing attention to juvenile arthritis research through the creation of planning grants for innovative and collaborative research specific to juvenile arthritis, with a focus on better understanding the prevalence, incidence, and outcomes associated with juvenile arthritis; and
- > Creating incentives to encourage health professionals to enter the field of pediatric rheumatology by establishing education loan repayment and career development award programs.

In collaboration with the Arthritis Foundation, the ACR has worked diligently to increase awareness of and request support for this groundbreaking legislation on Capitol Hill. However, Congress wants to hear from its constituents. Encourage your patients to contact their Representatives and Senators to support the Arthritis Act.

Contacting Congress is easy: Write a letter, send an e-mail, make a quick phone call, or direct patients to the ACR Legislative Action Center (www.capwiz.com/acr) where electronic form letters are available.

For questions regarding the "Arthritis Prevention, Control, and Cure Act of 2007" or ACR advocacy efforts, contact Government Affairs Director, Kristin Wormley or Government Affairs Specialist Aiken Hackett at (404) 633-3777.

FOCUS ON EDUCATION

ACR Recertification Resources

With the time constraints, stress, and lack of resources rheumatologists and other healthcare professionals face everyday, it can be challenging to find educational programs that not only provide measurable effects on the quality of patient care, but also offer resources to equip you for the ever-changing world of healthcare.

Jonathan Krant, MD, MPH, recently took three ACR continual professional development programs that do just that: the Rheumatology Board Recertification Exam Preparation Course; Assess, Improve, Measure (AIM); and Continuing Assessment Review and Evaluation (CARE). (See "ACR Recertification Tools," above left.)

As an associate professor of medicine at the University of Massachusetts, director of the teaching program at Berkshire Medical Center, and a volunteer in his community, Dr. Krant looks for educational opportunities that respect his resources and constraints as a busy healthcare professional.

In March, Dr. Krant participated in the ACR Rheumatology Board Recertification Exam Preparation Course in Philadelphia. The course is specifically designed for rheumatologists preparing for the American Board of Internal Medicine (ABIM)

Rheumatology Recertification Exam. Much like the exam, the course is case based. "The course review was pithy and relevant to what we do clinically," says Dr. Krant. "The questions on the exam are practice oriented. They really are oriented toward the clinician who cares for patients."

According to Dr. Krant, the Recertification Exam Preparation Course covers several issues of importance in great detail. Intensive and interactive by design, the course offers reviews of the diagnosis, management, and treatment of rheumatic diseases as well as major developments in rheumatology in the past 10 years. It also provides a forum to interact with experts and participate in group discussion to answer medical cases.

Continuing with the ACR's recertification resources, Dr. Krant took part in the ACR AIM Practice Improvement Module. This Web-based practice improvement tool is designed for rheumatologists engaged in the ABIM Maintenance of Certification program or for those who are interested in completing a quality-improvement program. All of the AIM questions relate directly to evidence-based quality measures. Dr. Krant describes the module as a way of obtaining an "in-depth analysis of your practice patterns with a series of questions aimed at improving compliance rates."

After working through the module, data culminate in an automated report that enables each physician to reflect on practice performance data, identify practice strengths and areas for improvement, develop and implement an improvement plan, assess the affect of change through re-measurement, and report any changes found. "It's really there to establish that you're meeting the minimum standard of practice with respect to disease recognition and treatment, but also are exceeding that minimum by assuring quality of care and minimum morbidity for patients who are managed according to appropriate standards of care," Dr. Krant says of the module. After working through it, he feels that it "reaffirms the impor-

CODING CORNER!

October's coding answer (question on p. 9):

The proper way to code this visit is 99214-25, 90765, 90766x3, G0332, Q4087x50, J7050; diagnosis codes: 357.81, 719.46.

The E/M visit would be coded 99214-25. The visit is a level 4 because the history is detailed and the medical decision-making was of moderate complexity. This is an established patient, so you only need two out of the three components to get to that level of coding. You need the modifier -25 to show the office visit was significant and separately identifiable, along with the following codes:

- >90765: This is the drug administration code for the initial hour of the infusion.
- >90766x3: This is used for each additional hour of the infusion (31 minutes or more constitute an hour).
- >G0332: This HCPCS code is the pre-administration-related services for IVlg. This service is to be billed in conjunction with administration of immunoglobulin.
- >Q4087x50: This drug would be coded as Q4087 with 50 units, because each unit is 500 mg.
- >J7050: This is the code for normal saline.

Coding Correction:

July's "Coding Corner" challenge (p. 11) read, "A 68-year-old female diagnosed with rheumatoid arthritis is scheduled for an arthrocentesis of the shoulder and the elbow." The correct challenge is, "A 68-year-old female diagnosed with rheumatoid arthritis is scheduled for an arthrocentesis of the shoulder and the knee joint."

tance of adequacy of follow-up, anticipating potential toxicities in therapy, and choosing the appropriate forms of therapy this day and age."

Finally, finishing the ACR recertification trifecta, Dr. Krant completed the CARE program. CARE assesses physicians' rheumatology knowledge base. Developed using the ABIM's rheumatology exam blueprint, CARE covers all of the content areas tested on the recertification exam, including RA, crystal-associated arthropathies, connective tissue disorders, and basic science. CARE is an online self-assessment tool that offers 60 clinically relevant, case-based questions with answer rationales and educational objectives.

"Some of the questions are quite sophisticated and take some thought," recalls Dr. Krant. "None of the questions asked were irrelevant ... there was not a single question posed that was of theoretical interest and irrelevant to the practice of rheumatology." Overall, Dr. Krant feels that the

program is "very representative of the kinds of problems that we tackle day to day as clinicians caring for sick patients."

These ACR education tools combine the daily workings of a practice with basic biology. According to Dr. Krant, completing all three of these complementary tools helped him to prepare not only for his upcoming recertification exam, but also for the continuous changes and discoveries in the field of rheumatology.

He plans to continue using these tools by working through additional AIM modules as they become available.

To learn more about ACR recertification courses—particularly if you need to recertify before 2012—visit www.rheumatology.org/educ/recertification or contact Julie Anderson, senior specialist, continuous professional development, at (404) 633-3777 or janderson@rheumatology.org.

[continued on page 12](#)



ARHP Angle

Innovative Educational Programs for Rheumatology APNs and PAs

>> By Karen L. Kerr, MSN, NP, CPNP, APRN-BC

Arthritis and other rheumatic diseases affect more than 46 million adults and 300,000 children in the United States.^{1,2} With the aging of the U.S. population, the number of adults with rheumatic disease is expected to increase to 67 million by 2030.¹ While the demand for rheumatology services is increasing, the supply of practicing rheumatologists is diminishing. The ACR Rheumatology Workforce Study (published earlier this year) predicts that there will be little or no increase in the number of practicing rheumatologists, resulting in a critical shortage of rheumatologists by 2020.³

Establishing collaborative rheumatology practices between rheumatologists, advanced practice nurses (APNs), and physician assistants (PAs) has been identified as one effective strategy to help meet the increased demand for rheumatology services, while maintaining accessible, high-quality care for rheumatology patients. Numerous studies have shown that APNs and PAs provide high-quality, cost-effective patient care and that patients are highly satisfied with the care received from these providers.

Online Learning

Most nurse practitioner and PA educational programs provide little rheumatology training. A 2003 survey of rheumatologists, APNs, and PAs found that the majority of APNs and PAs reported having little to no rheumatology training or skills prior to their first rheumatology position and that rheumatologists spent considerable time providing on-the-job training for their APN and PA colleagues. To assist APNs and PAs in obtaining the knowledge and clinical skills necessary to enter rheumatology practice, the ARHP—in collaboration with the ACR—is developing the Nurse Practitioner and Physician Assistant Post-Graduate Rheumatology Training Program.

This comprehensive, Web-based program (developed by leaders in the field of rheumatology from varied disciplines) will provide APNs and PAs with timely, convenient, self-paced education in rheumatology. The program consists of 19 Web-based modules, organized into core, adult, and pediatric categories. The six core modules include an overview of musculoskeletal structure, function, and inflammation; rheumatic disease classification and framework for clinical decision making; laboratory evaluation; imaging studies; documentation, cod-

ing, and practice issues; and therapeutic interventions and resources. There are 10 adult modules and three pediatric modules that provide state-of-the-art information on the diagnosis and management of common rheumatic diseases in adults and children. The program is scheduled to debut in late 2007 or early 2008.

Hands-On Training

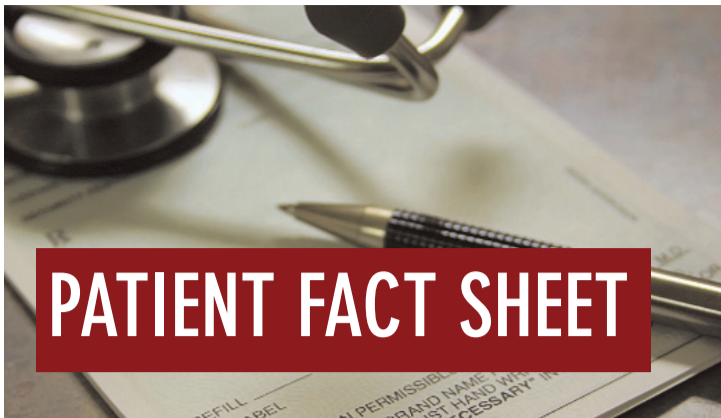
A one-day, hands-on course for APNs and PAs is also planned as a companion course to the Web-based program. This practical skills development course will provide training in performing musculoskeletal examinations and common rheumatologic procedures, such as arthrocentesis, intra-articular steroid injections, and trigger-point injections. It will be offered as a pre-conference course, debuting at the 2008 ACR/ARHP Annual Scientific Meeting in San Francisco.

These two new programs will assist APNs and PAs in more rapidly assimilating critical rheumatology knowledge and skills with less required training. This should facilitate more effective and efficient integration of APNs and PAs into collaborative rheumatology practices and ultimately improve access to and quality of care for people with rheumatic and musculoskeletal diseases. The ARHP is proud to add these two educational programs to our portfolio of outstanding educational products.

Karen Kerr is president of the ARHP and a pediatric nurse practitioner at Children's Hospital of Michigan in Detroit. Contact her via e-mail at arhp@rheumatology.org.

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PATIENT FACT SHEET

Joint Surgery

Modern joint replacement surgery involves removal of worn cartilage from both sides of the joint, followed by resurfacing of the joint with a metal and plastic replacement implant that looks and functions much like a normal joint. Although nearly every joint in the body can be replaced, most replacement surgeries involve the hip or knee. Joint replacement surgery is typically recommended for patients who have tried non-surgical treatment but still have joint pain. While this is an extremely effective surgical treatment, total joint replacement should be considered as the last (rather than the first) treatment option for patients with advanced arthritis of the hip, knee, or shoulder.

The definition of who is appropriate for total joint replacement surgery changes continuously, according to fact-sheet author Matthew J. Kraay, MS, MD. In general, there is no set upper age limit for joint replacement candidates. Instead, the decision is perhaps best made based on a patient's general medical condition, fitness for surgery, and how much arthritis affects the patient's quality of life.

Dr. Kraay highlights three points patients should remember when considering joint surgery as a treatment option:

- > Total joint replacement should be considered as a possible treatment option only after a reasonable attempt at non-operative management has been determined unsuccessful;
- > Primary care physicians should be consulted before surgery to ensure a patient is healthy enough to tolerate the anesthesia and rehabilitation associated with surgery; and
- > The specific limitations and activity restrictions that follow total joint replacement should be reviewed prior to treatment.

For the complete fact sheet on joint surgery, or for information about other ACR patient education materials visit, www.rheumatology.org/public/factsheets.

ACR Business Meeting 2007

The ACR will hold its annual business meeting for all members on Saturday, November 10, in Boston at the ACR/ARHP Annual Scientific Meeting. The business meeting will begin at 2 p.m., immediately preceding the "ACR Concurrent Abstract" presentation, and will include election of the ACR secretary, treasurer, and board members; and installation of the 71st ACR president, David A. Fox, MD.

REF NEWS

REF Fellowship Training Award Expanded

Workforce training should be at the forefront of every rheumatologist's mind. The release of the 2006 Rheumatology Workforce Study, commissioned by the ACR, confirms that the current shortage of rheumatologists will continue to increase, affecting current and future patient care.

And while the number of first-year adult rheumatology positions and the number of fellows completing rheumatology training programs have been increasing over the last several years, there is still a tremendous gap to fill.

Responding to this need, the REF board has expanded its REF/Amgen/Wyeth Rheumatology Fellowship Training Award to fund 30 fellows in fiscal year 2008—an increase of 50%.

Since its inception in 2002, the award's effects have been far reaching. The REF asked past recipients what this award has done for their programs. Their responses not only answer the question, but demonstrate the need for such awards.

Barbara S. Adams, MD, clinical professor and director of pediatric rheumatology at the University of Michigan in Ann Arbor, has been struggling to fund her program since her department limited fellowship funding in 2003. Dr. Adams was forced to look for outside funding to keep her program alive. She applied for, and received, awards in 2004 and 2006 and says, "The two REF/Amgen/Wyeth Rheumatology Fellowship Training Awards we received permitted us to admit two excellent fellows for whom we would not otherwise have had funding."

Helen Emery, MD, professor of pediatrics at the University of Washington and section chief of pediatric rheumatology at the Children's Hospital and Regional Medical Center in Seattle, consistently applies for the award. "Our program has been honored in the past to receive the REF/Amgen/Wyeth Rheumatology Fellowship Training Award, which has allowed us to consistently attract outstanding applicants," she says. "The award has allowed us to have one fellow each year instead of every other year."

Samina Hayat, MD, is the program director of the rheumatology fellowship training program at Louisiana State University Health Sciences Center in New Orleans. Although her program is funded by several sources, including the hospital, the funding is insufficient to support all four fellows currently in the two-year program. To ward off the potential salary deficit, Dr. Hayat applied for, and received, the REF/Amgen/Wyeth Rheumatology Fellowship Training Award. "The award has allowed us to fund a clinical fellow for one year—independent of other sources—and has allowed us to maintain our current training pro-

Grant Application Deadline

The deadline to apply for a REF "Within Our Reach: Finding a Cure for Rheumatoid Arthritis" research grant is rapidly approaching.

Grants are available in the following RA research areas:

- > Innovative basic research;
- > Translational research; and
- > Clinical practice.

Applications must be postmarked by December 1. For complete applicant information, please visit www.WithinOurReach.info.

gram," she explains.

The REF's mission is to provide the best care possible to those living with rheumatic diseases. To achieve this mission, the REF offers an extensive awards and grants program aimed at ensuring a qualified, well-trained rheumatology workforce. Applications for the next round of awards will be available in May 2008. For more information about the program and award recipients, visit www.rheumatology.org/REF.

Funding for the REF/Amgen/Wyeth Rheumatology Fellowship Training Award is made possible through the financial support of Amgen Inc. and Wyeth Pharmaceuticals. | THE RHEUMATOLOGIST |

CORRECTIONS

In the article "Rheumatology Goes to Washington" (May issue, p. 14)

- > Larissa Bates' name was incorrectly reported as Larissa Norstebon.

In the article "A Yardstick for Lupus" (August issue, p. 24)

- > The photo caption should read: "Drs. Snaith, Bacon, and Isenberg (shown left to right) ..."
- > The footnote in the final paragraph should refer to: Isenberg DA, Rahman A, Allen E, et al. BILAG 2004: Development and initial validation of an updated version of the British Isles Assessment Groups disease activity index for patients with systemic lupus erythematosus. *Rheumatology* 2005;44:902-906.
- > The contribution of Caroline Gordon should read: "has made an outstanding contribution, smoothing the original BILAG index's slightly rougher edges, introducing and testing BILAG 2004, and ensuring that the computer program reflects these improvements."

The Rheumatologist apologizes for these errors.

CALENDAR

2007-2008

OCTOBER 24

- > **Audioconference:** EMR ... Ready or Not
- Speaker:** Kent Blakely, MD

OCTOBER 31

- > **Deadline:** ARHP Member-Get-a-Member Campaign

NOVEMBER 6-11

- > **Meeting:** The ACR/ARHP Annual Scientific Meeting, Boston

NOVEMBER 6

- > **Opening:** AIM Gout Enrollment

NOVEMBER 16

- > **Deadline:** 2008 Annual Scientific Meeting Call for Suggestions
- > **Deadline:** 2008 Annual Scientific Meeting Study Group Application

NOVEMBER 17

- > **Exam:** ABIM Rheumatology Board Certification

NOVEMBER 19

- > **Exam:** ABIM Maintenance of Rheumatology Certification

DECEMBER 1

- > **Deadline:** REF "Within Our Reach" Grant Application

DECEMBER 28

- > **Deadline:** ACR Winter Rheumatology Symposium Advance Registration

JANUARY 15

- > **Audioconference:** Promoting Safety Among the Elderly: Confidence and Function

JANUARY 27-FEBRUARY 1

- > **Meeting:** ACR Winter Rheumatology Symposium, Snowmass, Colo.

For more information about these or any other ACR, ARHP, or REF activities, visit www.rheumatology.org.

CALENDAR CORRECTION: There has been an update to the 2007 ACR calendar.

The 2008 Annual Scientific Meeting Call For Suggestions deadline has been moved to November 16.

DISAPPEARING DOLLARS

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What's happening to federal research funding in rheumatology?

>> By Mariana J. Kaplan, MD, and Virginia Pascual, MD

The funding outlook in the United States for the biological sciences in general, and for medical sciences in particular, is bleak. The last few years have been very challenging for the research community in the United States because a tight federal budget has significantly decreased the growth of the National Institutes of Health (NIH). Indeed, success rates are currently in the single digits for some grant programs at the NIH and National Science Foundation (NSF), and programs funded by the Centers for Disease Control and Prevention (CDC) are also in jeopardy. While the total number of applications has significantly increased since fiscal year (FY) 2002, success rate, total number of grants awarded, and total dollars committed to research have dropped steadily—and the decline was precipitous in 2005.

This year, NIH will likely not receive any increases in funds, resulting in a cumulative loss of purchasing power of 8.3% since 2004. While national defense spending has reached close to \$1,600 per capita, federal spending for biomedical research amounts to approximately \$97 per capita. The scientific community in the United States depends on federal funds to perform research. Indeed, it has been mostly federal funding for biomedical research that has fueled discoveries leading to significant advances in the understanding of human disease and the development of effective diagnostic tools and therapies.

An area of great concern is the individual researcher grants, called RO1s. A majority of important biomedical science discoveries in the United States have come from independent investigator laboratories funded by RO1s. The cost of interrupting support to an independent laboratory can be substantial. Currently, nearly 75% of researchers who apply for NIH RO1 funding do not succeed. In 2005, 27.6% of applications received funding, down from 35% in 2000. RO1 applicants are allowed to submit a specific application up to three times. Each time a rejected application is revised, it delays the time required before support can be approved and research initiated by close to a year. Because the grant application process is slow and uncertain, it often leads otherwise promising and successful investigators to re-evaluate and change careers. It can also result in the dissolution of teams of highly trained personnel.

For new submissions, an overall success rate of 9% was calculated for FY 2005. Further, the budget for existing grants was cut by 2.35% in 2006 to free up money for new grants and grants competing for renewal. Some funded grants were required to cut administrative costs by 20%. It becomes very difficult, if not impossible, for peer review to discriminate among applications and accurately select only one of 11 for funding. Grants are not only more difficult to obtain now, but also more difficult to renew. While FY 2006 data are

not yet available, a trend toward further diminished RO1 support is evident because the total NIH allocation was less than the biomedical inflation index.

Biomedical Belt Tightening

Reasons for this tightening biomedical budget include a ballooning federal deficit; 3% to 5% annual inflation in biomedical research costs; a political mandate that has shifted towards military, defense, and security spending; and an increased demand for grant funding. Indeed, there has been an explosive growth in grant applications. In 1998, the NIH received 24,000 grant applications, while in 2006 it received 46,000. Average grant sizes have

continued on page 14 →

Consequences of Disappearing Federal Funds

- > Decreases in advances in the understanding of human disease and the development of diagnostic tools and therapies;
- > Loss of highly skilled and trained personnel due to career changes and dissolution of research teams; and
- > Fewer individuals selecting careers in biomedical research.

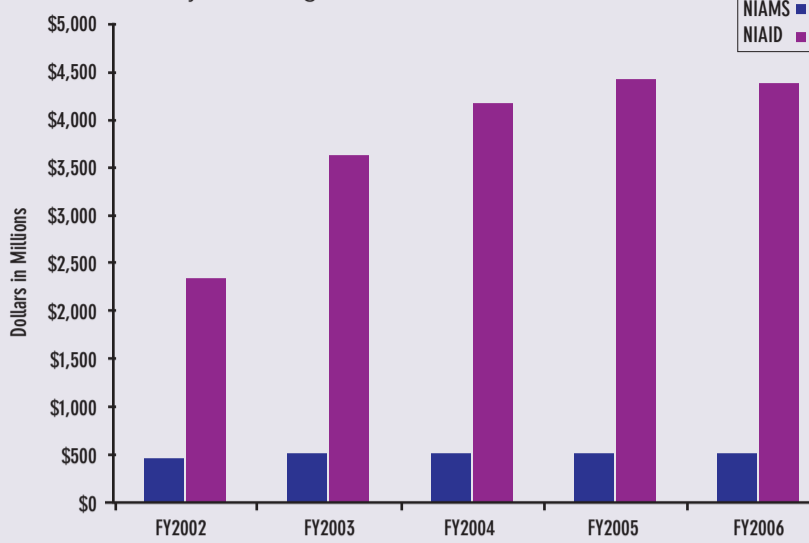


also grown substantially and, because Congress stopped increasing the NIH budget, its buying power has fallen significantly.

A shift in the allocation of NIH dollars has significantly decreased the percentage of NIH budget devoted to independent investigators. From 1998 to 2005, there was almost a 6% decrease in the percentage of the total NIH budget that went to independent investigator grants. While it is unclear what the balance should be between shifting funds to multicenter projects (including multicenter clinical trials or genome projects) and maintaining adequate independent-investigator research, it is important to remember that the main force that drives translational research and clinical trials is the independent investigator.

Importantly, it is the independent investigator who trains the next generation of researchers. Decreased funding success leads to a loss of competitiveness and sends a disheartening message to potential future generations of researchers. Fewer graduate students and subspecialty fellows might elect to remain in academia as the number of potential role models decreases. A new investigator missing the pay line after several attempts can end a potentially promising career and waste the costly investment of training a young scientist. New investigators are particularly hurt by the budget situation. For example, the average age at first RO1 grant is now 42, up from 34 in 1980. At that time, approximately 25% of RO1 grants went to researchers younger than 35, while today it is approximately 4%. This causes problems in faculty recruitment, retention, and renewal.

FIGURE 1: Five-year funding trends for the NIAMS and NIAID



Trends in Rheumatology Dollars

Arthritis is the leading cause of disability in the United States and nearly 43 million Americans—about one in every five adults—have arthritis or chronic joint symptoms. As the population ages, these numbers will probably increase dramatically. Each year, arthritis costs billions in medical care and indirect expenses such as lost wages. Currently, the budgets for the two institutes that fund the majority of rheumatology-related grants—the National Institute for Arthritis and Musculoskeletal and Skin Diseases (NIAMS), and the National Institute for Allergy and Infectious Diseases (NIAID)—have ongoing decreases in their budget and pay lines.

The NIH is currently operating under a continuing resolution and it is unclear when a final appropriation will be given. Currently, for NIAMS and NIAID, only RO1 grants that fall in the 10th percentile are receiving funding from these institutes. Other types of grants have also seen signifi-

and eight clinical trial/translational research projects, distributed among half of the 25 ACGME-accredited pediatric rheumatology divisions across the United States.

The current budget is clearly insufficient to address the scientific challenges in the field. NIAMS leads the main research effort in pediatric rheumatic diseases, and a further decrease in its FY 2007 budget will definitely have an effect on the already slim funding of arthritis and related rheumatic diseases in children. It will hamper basic research and patient care both in the short term—by not providing novel therapies—and even more importantly in the long term—by not training a new generation

of pediatric rheumatologists to conduct clinical research.

The ACR supports a proposal to triple NIH funding for FY 2008 and provide annual increases in the NIAMS budget, and opposes the use of budgetary mechanisms that arbitrarily limit research funding. The ACR also supports the National Arthritis Action Plan and arthritis-related funding activities from the CDC.

Interestingly, very few scientist and physicians are taking a proactive approach to ask Congress to increase the NIH budget. This passivity has been explained in a number of ways, including lack of time, ignorance on how to proceed to press for additional funding, and a misconception that other people are engaged so there is no need for a scientist or physician to get involved. It is imperative that more voices be heard so that we do not encounter a lost generation of researchers and the implications this has for healthcare and biomedical science development. Voices of physicians and scientists are needed to send a message to Congress that these severe cuts in federal research funding are jeopardizing very important advancements in biomedical research. Assuring a vital research workforce for the future is imperative for the health of the United States. | THE RHEUMATOLOGIST |

Dr. Kaplan is assistant professor in the division of rheumatology at the University of Michigan in Ann Arbor. Dr. Pascual is associate investigator at Baylor Institute for Immunology Research (Texas).

While national defense spending has reached close to \$1,600 per capita, federal spending for biomedical research amounts to approximately \$97 per capita.

Future Implications

These trends are quite ominous for the future of U.S. research. Most biomedical research innovation typically comes from young researchers working in small and mobile research groups. The vitality of these young investigators must be preserved at all costs. The factors mentioned above have made careers in biomedical research increasingly unattractive for young people. We must assure that a new generation of scientists obtains adequate resources to carry on the research. Unfortunately, NIH training grants, a major source of support for postdoctoral and clinical fellows during their research experience, have also been affected. Trainees might opt for other career paths as a result, further decreasing the pipeline of future investigators.

This issue raises serious concerns about the future of U.S. biological and medical sciences, because the RO1 grant is an essential contributor to scientific innovation. Recent discoveries have provided potential opportunities for science, but we might not be able to take full advantage of these breakthroughs. It is already evident that the United States' contribution to science in general and biomedical sciences in particular is decreasing, and federal decreases in funding will accelerate this process.

cant reductions. NIH funding specifically assigned to arthritis research was \$380 million in 2003 and gradually fell to about \$361 million in 2007. Adjusted for inflation, this is a sharp decrease. Similarly, funding for autoimmune diseases in general fell from \$591 million in 2003 to \$584 million in 2007. Similar striking trends have been seen for specific systemic autoimmune diseases, such as lupus and scleroderma. While autoimmune diseases affect 10% of the general population, they account for only 2% of NIH funding.

Pediatric Research Funding

Childhood arthritis is the number-one cause of acquired disability in children and the sixth most common childhood disease. It is estimated that 300,000 children in the United States suffer from some form of arthritis or rheumatic disease. Many childhood rheumatic diseases are different from those that start in adulthood, yet most pediatric rheumatic diseases are treated with the same drugs used in adults. Basic research and clinical trials in pediatric rheumatology are the only way to find the specific causes and the right treatments for these diseases. Less than 2% of the annual NIAMS budget was allocated to support pediatric rheumatology research in the past four years. Currently funded projects include 11 basic

What Can You Do?

- > Take a proactive approach and establish contact with your senators and representatives and their staff to advocate for research funding increases. To determine your legislators, go to <http://capwiz.com/acr/dbg/officials> and enter your zip code.
- > Contact the ACR Government Affairs Committee to participate as an Advocate for Arthritis: www.rheumatology.org/advocacy/federal/advocates.asp.
- > Inform your colleagues, peers, and patients about the current status of federal research funding and encourage them to take a proactive approach.
- > Learn more about the ACR's political action committee (PAC) to enhance rheumatology's presence on Capitol Hill. Contact Kristin Wormley at kwormley@rheumatology.org for more information, or visit the advocacy section of www.rheumatology.org.

a better FAMILY PLAN

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MEDICAL ASPECTS OF DISEASE | continued from page 1

How to minimize the risks of pregnancy for women with SLE >> By Megan E.B. Clowse, MD, MPH

Risks to the Fetus and Child

The birth of a healthy full-term baby following an easy pregnancy is the goal of every woman, but it may not be the reality for many women with SLE. Though fewer women with SLE will lose their pregnancy than in previous decades, many are still at increased risk for preterm birth. In general, a third of all SLE pregnancies deliver early—meaning prior to 37 weeks of gestation—and a significant minority will deliver in the even more dangerous period prior to 32 weeks gestation.² Though most babies born to women with SLE are healthy, neonatal lupus manifesting as congenital heart block can occur in up to 2% of babies exposed to Ro/SSA and/or La/SSB antibodies.³ The

immune system of babies born to women with SLE appears to be functionally intact, with few reports of significant infections or lasting immunodeficiency.⁴ While most children born to women with SLE have normal development and intelligence, there may be a modest increase in the rate of learning disabilities in elementary school-age boys.⁵ A small proportion of offspring (around 10%) will develop an autoimmune disease at some point in life.⁶

Risks to the Mother

The risks to the pregnant woman with SLE are low, but present. The maternal mortality rate among women with SLE is 20-fold higher than

the maternal mortality for healthy women in the U.S.⁷ Though this risk may appear high, the absolute risk of death during the year of pregnancy does not appear to be greater than any other year that a woman lives with SLE. In a nationwide study of SLE pregnancies, the maternal mortality rate was 0.325%; the annual mortality rate for a non-pregnant woman with lupus is several times higher—between 0.7% and 2.5% in most studies.^{8,9} This study also found that increased risks for stroke, deep vein thrombosis, infection, and hematologic abnormalities among women with SLE were higher than in the general population. Up to one quarter of women with SLE will develop preeclampsia (hypertension and proteinuria

related to pregnancy). The bulk of the evidence points to a modestly increased risk for SLE activity during pregnancy. Fortunately, severe SLE flares in pregnancy are not common, and the majority of symptoms are related to musculoskeletal and cutaneous disease.

So, how can we optimize the chances for pregnancy success for a woman with SLE? Are there strategies that we can use to decrease her risks? Can we improve her chances of delivering a full-term, healthy baby? Fortunately, I think that we can. Here are some of the steps that we, as rheumatologists, can take to help our patients grow healthy babies.

Step 1: Conceive when Lupus is Quiescent

To give a pregnancy the best chance for success, the woman should have quiet lupus at the time of conception. The importance of lupus activity at the time of conception has been known for years.¹⁰ The Hopkins Lupus Cohort offers a clear demonstration of the negative effects of SLE activity at conception. In this cohort of 265 pregnancies, 42% of women with SLE activity in the six months prior to conception suffered a pregnancy loss, compared with 11% who conceived during a period of quiescence.¹¹ Similarly, lupus activity in the first trimester—whether assessed with a physician's global assessment, thrombocytopenia, or proteinuria—led to a several-fold increase in pregnancy loss over more stable SLE patients.¹²

Though the timing of any pregnancy can be challenging, it is clearly important in women with SLE. Women with active lupus should be offered contraception in order to avoid the pregnancy

the risk of preeclampsia, preterm birth, and fetal demise were all modestly—but significantly—decreased.¹⁵ The Cochrane report recommends that all women at high risk for preeclampsia consider taking a low dose of aspirin throughout pregnancy. Aspirin at this dose has proven safe and does not increase congenital abnormalities in the offspring. In studies of SLE pregnancies, preeclampsia may occur in 10% to 25% of all pregnancies, compared with 5% to 10% of healthy pregnancies.^{7,16} For this reason, it may be argued that all women with SLE should take a low-dose aspirin throughout pregnancy.

The maintenance of normal blood pressure is important throughout pregnancy. Women with hypertension in the first trimester have a several-fold increased risk for pregnancy loss.¹² In the Hopkins Lupus Cohort, this risk was eliminated by the maintenance of normal blood pressure with anti-hypertensive medication. Most obstetricians prefer to avoid ACE inhibitors and diuretics during pregnancy. For this reason, modification of a woman's anti-hypertensive regimen may be required—preferably prior to conception.

Hydroxychloroquine is considered safe during pregnancy. More than 300 pregnancies in patients on this drug have been reported, with no increased risk for congenital abnormalities identified. Ophthalmologic and cardiac abnormalities have not been identified in offspring after systematic exams.¹⁷ Further, in the Hopkins Lupus

TABLE 1:

Medication use during SLE pregnancy

Medications to continue in pregnancy	Medication to discontinue prior to pregnancy
Prenatal multivitamin	Cyclophosphamide
Low-dose aspirin	Mycophenolate mofetil
Hydroxychloroquine	Methotrexate
Prednisone (moderate dose)	Leflunomide
Azathioprine	
Aspirin 81 mg	

recommend continuing azathioprine during pregnancy if it was required prior to conception to treat SLE. Based on the current evidence, the risk of discontinuation prompting a significant flare may outweigh the toxicity to the fetus.

Corticosteroids can be used in pregnancy when needed, though prophylactic treatment is not recommended. Routine use of corticosteroids may increase the risk for hypertension, diabetes, infection, and preterm birth. Moderate doses of corticosteroids to treat active lupus, however, are well tolerated. Prednisone and prednisolone are metabolized by the placenta, allowing only 10% of the maternal dose to reach the fetus. Fluorinated corticosteroids, such as dexamethasone and betamethasone, are not metabolized and thus easily transfer to the fetus. Therefore, fluorinated steroids can be used to treat the fetus, such as to modify congenital heart block or prior to a preterm delivery, but they should be avoided in routine treatment of lupus during pregnancy. Corticosteroid use in the first trimester has been associated with a three-fold increased risk for cleft lip and palate.²¹ The absolute risk for this complication is low, occurring in an average of three per 1,000 live births with early corticosteroid exposure. Lip and palate formation are complete by the eighth week of gestation, so steroid use later in pregnancy may not increase this risk.

Medications not considered safe in pregnancy include cyclophosphamide, mycophenolate mofetil, methotrexate, and leflunomide.¹⁹ Each of these drugs has been clearly associated with congenital anomalies, particularly when exposure occurs in the first trimester. If a woman contemplating pregnancy is taking one of these medications, it should be discontinued if possible and replaced with azathioprine, sulfasalazine, or a moderate dose of prednisone. If pregnancy occurs while the patient is taking one of these drugs, close obstetrical follow-up is required. The rate of congenital abnormalities does not dictate routine pregnancy termination, but fetuses should be examined closely for abnormalities via ultrasound. Women on leflunomide should be treated with cholestyramine to eliminate the drug if pregnancy is desired or discovered.

If a woman requires medications to maintain quiet lupus, then medication should be continued in pregnancy. If a woman is on a higher-risk medication, consider switching her to azathioprine prior to pregnancy.

Step 3: Monitor Closely During Pregnancy

Given the risks of pregnancy in women with lupus, it is important for these women to be closely monitoring by a rheumatologist and obstetrician skilled in high-risk pregnancies. From the rheumatologist's standpoint, SLE can harm a pregnancy through three primary routes:

1. SLE activity;
2. Ro(SSA) and La(SSB) antibodies causing neonatal SLE; and
3. Antiphospholipid syndrome (APS).

SLE Activity in Pregnancy

The rheumatologist's primary role is to identify

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It is important to weigh the potential risks of each medication to the developing fetus versus the benefit of each in maintaining low lupus activity prior to and during pregnancy.

tragedies that may result. Because women on cyclophosphamide may still be fertile during therapy, a pregnancy test should be performed prior to each intravenous dosage and contraception should be encouraged. Good contraception options for women with active lupus include progesterone-only pills or the Depo-provera shot, an intrauterine device (IUD), or barrier methods (condoms or a diaphragm). Though estrogen-containing oral contraceptives may be safe for women with mild or inactive lupus, they have not been tested in women with significant disease activity.^{13,14}

Step 2: Continue Some Medications, Discontinue Others

The need to conceive when lupus is quiet brings us to the use of medications to control lupus activity. Discontinuing all medications when a woman is ready to conceive will often prompt an SLE flare, thus endangering her pregnancy. Therefore, it is important to weigh the potential risks of each medication to the developing fetus versus the benefit of each in maintaining low lupus activity prior to and during pregnancy. (See summary in Table 1, above right.)

All women contemplating pregnancy should take a pre-natal multivitamin prior to conception. Women who have taken methotrexate or sulfasalazine may be folate deficient, and therefore in particular need of extra folic acid prior to pregnancy.

Low-dose aspirin has been studied extensively in pregnancy, primarily as a preventive measure against preeclampsia. In a Cochrane Collaboration report of more than 20 such studies,

Cohort, there was an increase in lupus activity during pregnancy among women who discontinued hydroxychloroquine early in pregnancy.¹⁸ These women had more arthritis and cutaneous disease and required higher doses of corticosteroids to control their disease during pregnancy. Based on this data, I recommend that all women continue hydroxychloroquine ≤ 400 mg per day throughout pregnancy.

Azathioprine may be the safest immunosuppressant in pregnancy. There are extensive reports of pregnancies exposed to azathioprine among women with kidney transplantation or inflammatory bowel disease.¹⁹ These studies did not find an increased risk for congenital abnormalities among infants exposed in utero to azathioprine. They did find, however, an increased rate of preterm births after azathioprine exposure. It is unclear if this was caused by the drug or the underlying disease it was used to treat.

In the Hopkins Lupus Cohort, 31 pregnancies were exposed to azathioprine.²⁰ There was no increase in the rate of miscarriages for pregnancies exposed to azathioprine in the first 20 weeks of pregnancy. The risk of stillbirth was increased in pregnancies with azathioprine, however this appeared to be related to higher lupus activity among women taking the medication. Among the 18 women who conceived while taking azathioprine, two of the four that developed highly active lupus in pregnancy suffered a loss. Another two of the four that discontinued the drug suffered a loss. The remaining 10 pregnancies in which the woman continued the drug and maintained low activity lupus resulted in live births. I

SLE activity during pregnancy. This can be a challenge, as many symptoms of pregnancy can mimic SLE. Many pregnant women will suffer from fatigue and lower extremity and hand swelling. Chloasma, or the “mask of pregnancy,” can be mistaken for a malar rash as it manifests with a photosensitive hyperpigmented discoloration over the cheeks, forehead, and nose.

Many laboratory values change during pregnancy, which may make discerning SLE activity more challenging. Up to 8% of healthy women will have mild thrombocytopenia during pregnancy, though significant declines in the platelet count are more likely related to SLE or APS. During pregnancy, a woman’s blood volume increases 50%. This leads to mild anemia in many women. It also leads to increased renal blood flow and a drop in the serum creatinine. Due to this increased renal function, proteinuria may increase in women with prior glomerular injury. A modest proteinuria increase early in pregnancy in a woman with prior lupus nephritis can be followed expectantly, particularly if the urine sediment is not active, but increases in proteinuria greater than 50% or 1 gram may be indicative of active renal disease.

The total complement level may increase up to 50% in some women during pregnancy. In the Hopkins Lupus Cohort, however, half of all pregnancies had hypocomplementemia. Low complement on its own was not associated with poor pregnancy outcomes. However, women with low

complement and active SLE had particularly poor outcomes: This group had a four-fold increase in pregnancy loss and a four-fold decrease in term births compared with all other SLE pregnancies.²²

I recommend that pregnant women with SLE be seen monthly by their rheumatologist to assess for SLE activity. Despite many obstetricians’ skill in managing their patients’ medical problems, few are comfortable assessing and treating SLE activity. If a woman has increasing SLE activity during pregnancy, she should be treated promptly. Unfortunately, no studies of SLE treatment can indicate best how to treat an SLE flare in pregnancy. I usually use moderate doses of prednisone, or an in-office intramuscular injection of triamcinolone, to treat mild to moderate flares. For more severe flares, higher doses of corticosteroids are appropriate. Intravenous immunoglobulin (IVIg) is considered safe in pregnancy and may be a good alternative to immunosuppressives for severe lupus activity in pregnancy.²³

Preeclampsia
The distinction between preeclampsia and lupus nephritis can be particularly difficult to discern. Preeclampsia is defined as hypertension ($\geq 140/90$) and proteinuria (≥ 300 mg per 24 hours) that occurs after the 20th week of gestation. Severe preeclampsia is defined by higher blood pressure and proteinuria levels and is accompanied by other organ damage, including elevated liver tests, thrombocytopenia, and mental status changes. Eclampsia is the addition of grand mal seizures. HELLP syndrome is a severe form of preeclampsia distinguished by hemolysis, elevated liver tests, and low platelets. As the signs and symptoms of preeclampsia can be similar to a severe SLE flare, it can be difficult—if not impossi-

Preeclampsia

ble—to distinguish between the two. The distinction is important, however, because treatment is different: For severe preeclampsia, it is delivery. For SLE, it is immunosuppression. In some cases, treatment for both may be prudent.

Though no single test will perfectly distinguish between preeclampsia and SLE, there are several approaches that may help.

- 1 Low complement and rising dsDNA titers are more commonly seen with active SLE than preeclampsia;
- 2 Other signs of active SLE, such as inflamed joints and flaring SLE cutaneous reactions, may signify an SLE flare; and
- 3 Though both present with proteinuria, the urine sediment is usually benign in preeclampsia, whereas SLE nephritis will often have an active sediment with red blood cells, white blood cells, and casts.

Neonatal Lupus

An estimated 10% of babies born to women with Ro(SSA) and/or La(SSB) antibodies have signs of neonatal lupus. The majority of these babies will have a photosensitive rash (similar in appearance to subacute cutaneous lupus) prior to six months of age. Fortunately, the rash does not leave a scar and will resolve as the Ro and La antibodies are cleared by the infant. Up to 2% of babies, however, will develop congenital heart block as a re-

sult of in utero exposure to the pathogenic antibodies. No cases of complete heart block have been reversed with therapy. However, there are case reports of fetuses with first- or second-degree heart block reversing after therapy with dexamethasone.³ Therefore, frequent screening between the 16th and 28th weeks of gestation with a fetal echocardiogram to measure the PR interval is recommended. Any increase in the PR interval should prompt therapy with dexamethasone 4 mg each day.

Antiphospholipid Syndrome

APS is associated with a high risk for pregnancy loss and may increase the risk for preeclampsia and placental insufficiency. For a woman with prior pregnancy losses due to APS, therapy with low-molecular weight heparin and aspirin during pregnancy may significantly improve her chances to deliver a live baby. For women with the antibodies of the syndrome (anticardiolipin or anti- $\beta 2$ -glycoprotein1 antibodies, or the lupus anticoagulant) but no prior pregnancy losses or thromboses, the best course of treatment is more difficult to discern. Though definitive data are lacking, I recommend treating these women with low-dose aspirin throughout pregnancy.

Summary

In the 21st century, the majority of pregnancies in women with SLE will be successful, resulting in a well baby and a healthy mother. Planning prior to conception—in particular, timing the pregnancy to coincide with a period of SLE quiescence and modifying medications—can increase the chances for a happy outcome. Careful monitoring by a rheumatologist for SLE activity and a high-risk obstetrician for pregnancy and fetal

troubles will provide the best opportunity for success. New, targeted therapies for SLE appear to be on the horizon. Systematic evaluation of the safety and efficacy of these drugs in pregnancy may lead to further pregnancy success in young women with SLE. ■ THE RHEUMATOLOGIST ■

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Education BEYOND the Classroom

The Committee on Education provides the resources you need to keep your skills and knowledge up to date

>> By Jane Jerrard

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The mission of the committee is simple but essential to ACR and its members: “The Committee on Education plans educational activities,” explains Dr. Ramsey-Goldman. In fact, the Committee on Education has so many responsibilities that it includes four busy subcommittees to ensure everything gets done. Because the committee’s major activity is the annual meeting, there is a planning subcommittee for the meeting, she notes. The Professional Meetings Committee and the Continuous Professional Development Committee plan all other activities, and the Audiovisual Aids Subcommittee manages the ACR’s image collection.

Annual Meeting Planning Committee

The most obvious—and perhaps largest—task that the Committee on Education is faced with is the annual meeting.

Planning for the Annual Scientific Meeting starts before the previous one has ended. Right after the meeting, “a pre-planning meeting is held to review the meeting that just occurred,” says Dr. Ramsey-Goldman. The Annual Meeting Planning Committee plans the meeting in December and presents the tentative program to the Committee on Education in January. This review ensures the varied interests of meeting attendees will be represented and that the program complies with ACCME criteria. Typically, the majority of the meeting is developed and approved by the end of January.

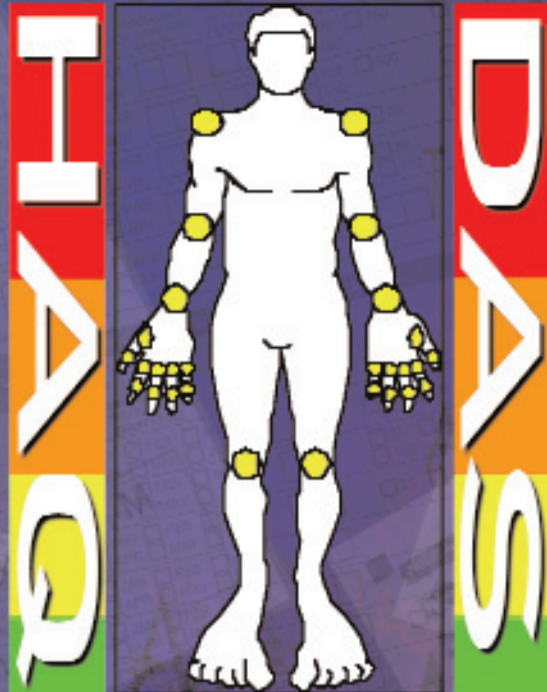
In order for the meeting to be relevant, the subcommittee members must be representative of the specialty. “We have a mix of people from clinical, research, and practice,” explains Dr. Ramsey-Goldman. “You participate in the committee to represent the constituency you come from, and bring with you ideas for important content. This is one of the ways that we identify the content to include in the meeting.”

The current Annual Meeting Planning Committee chair is Brian F. Mandell, MD, PhD, professor of medicine at the Cleveland Clinic. “We recognize that the ACR membership is incredibly broad based, and we try to offer something for everyone,” he says. “That includes basic researchers, translational or clinical researchers, clinicians, educators, trainees, and administrative clinicians. The meeting is an opportunity to hear the latest advances and current trends in each of these areas.”

The annual meeting is typically packed with choices of educational sessions, allowing members with specific interests to focus on those areas. “The annual meeting includes new science that has not yet been published, areas based on needs assessment

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MAKE RA OUTCOMES MEASURES



WORK FOR YOU

Expert tips for collecting and analyzing RA patient data

>> By Heather Lindsey

What Data to Gather?

What measures should be used in practice is “still an unsettled question,” says Timothy Harrington, MD, a rheumatologist at UW Health, the academic health system for the University of Wisconsin in Madison.

The Health Assessment Questionnaire (HAQ) is one candidate for evaluating RA in the clinic, says Dr. Harrington, who is also a professor of medicine at the University of Wisconsin School of Medicine and Public Health. This measure is simple and durable and can separate the physician’s assessment from the patient’s.

Other examples of outcomes measures that clinicians use include joint scores, X-rays, laboratory tests, and physician and patient global assessment status, says Eric Schned, MD, a rheumatologist at Park Nicollet Clinic in Minneapolis and a *TR* editorial board member. The Disease Activity Score (DAS), and its variants, are other measures that are increasingly used in addition to other activity scores, he adds.

Many comprehensive outcomes measures, such as DAS-28, were developed for clinical trials, says Dr. Harrington, and he notes that collecting the necessary data and calculating results of such measures in real time and then applying them to clinical decision making is complicated for physicians in an office setting.

When deciding which outcomes measures to employ in their practice, rheumatologists need to remember that more than one assessment is advisable, says Frederick Wolfe, MD, director of the National Data Bank for Rheumatic Diseases and clinical professor of medicine at the University of Kansas School of Medicine. Rheumatologists should also know the magnitude of change that is considered to be signif-

icant for each measure.

For example, an increase of 0.25 units in the HAQ Disability Index could be due to random variation or error, says Dr. Wolfe, who used outcomes measures in private practice for more than 25 years. If tools like the HAQ are used with other patient assessments, it is easier to interpret smaller changes.

Dr. Wolfe also advises using these outcomes measures over time because they can vary widely in an individual patient. They may also be influenced by various factors, such as other illnesses or pain not related to RA, he explains.

Collection and Analysis

No matter which outcomes measures are used, each practice must determine the best way to collect and analyze their data. Managing these logistics may be difficult. “Someone has to hand out forms to patients, collect them at the office visit, and enter data into the electronic or written record,” says Dr. Schned.

Martin Bergman, MD, a rheumatologist in private practice in Ridley Park, Penn., has office staff give patients a Routine Assessment of Patient Index Data (RAPID) questionnaire while they are in the waiting room. He then scores the questionnaire before meeting with the patient.

Computers facilitate data collection and analysis for some physicians. For example, David Fraser, MD, a rheumatologist at Coastal Arthritis and Rheumatism in Jacksonville, N.C., plans to have a computerized touch screen in the waiting room on which patients can complete a mini-HAQ. The computer will print out an assessment score, which Dr. Fraser or an administrator will record in the patient’s chart or manually input into the electronic medical

record (EMR).

Dr. Fraser also finds computerized tools valuable in scoring and analyzing information. He uses an online calculator (www.das-score.nl)—developed by the Department of Rheumatology at the University Medicine Center of Nijmegen in the Netherlands—for scoring the DAS-28CRP.

For office use, he analyzes trends in DAS-28CRP and mini-HAQ data through his EMR. By using a spreadsheet program such as Excel, he can easily transfer EMR data to other software for statistical analysis when writing papers and abstracts or comparing one drug or patient subset with another.

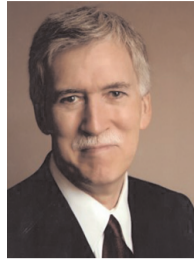
One day, Dr. Fraser hopes to use a tablet PC to input and calculate DAS-28CRP data in the exam room. These data, in addition to mini-HAQ data captured by touch screen, would directly flow into the patient’s EMR.

While computers may help collect and analyze data, a paper-based system may be preferable, says Theodore Pincus, MD, professor of medicine in the rheumatology division at Vanderbilt University in Nashville, Tenn.

He keeps hard-copy records of patients’ multidimensional HAQ scores rather than entering data into an EMR. “If you have the patient’s chart, X-rays, lab reports, and outcomes measures all up on the computer, you have to scroll back and forth between four documents,” he explains. “Having a hard copy and spreading results out on a table is easier.”

Paper records can be as effective as electronic records if the practice uses standardized data forms and dictation templates, says Dr. Harrington, adding that switching to an EMR may not be realistic for many offices in the short term.

Despite some of the challenges inherent in collecting data, “the impacts on our practice and patient care are greater than we imagined.”
— Timothy Harrington, MD



Whether the record is paper or computer based, Dr. Harrington advises that practices enter all their patient information into a registry built on diagnostic billing codes, organize clinical data in a standardized format, and monitor any quantitative measure that reflects active RA joint inflammation.

Effect on Patient Interaction and Treatment

Overall, outcomes measures appear to improve patient treatment, as well as the efficiency of clinical

practice, according to experts.

Dr. Fraser says that assessing an individual's DAS data helps him determine whether the patient is responding to a medication and if treatment should be altered.

“For [overall] trends, what I've seen using DAS is a general reduction in measurements when patients are taking biologics,” he says. Because data have indicated such an improvement, he adds biologics earlier to the treatment regimen.

EDUCATION BEYOND THE CLASSROOM | continued from page 19

data we think [members] need education on, cases to be discussed, and ‘Meet the Professor’ sessions,” Dr. Ramsey-Goldman states. “There are also workshops with hands-on education, whether it's practice with joint injection, learning new technologies on a PDA, or looking at joint fluid under a microscope.”

The Annual Meeting Planning Committee has made a conscious choice to provide more educational options during this year's meeting. “We realize that there may be conflicts for some individuals who have to choose [between concurrent sessions offered], but we decided to push toward more alternatives,” says Dr. Mandell.

One way to learn from every session is to access some after the meeting. “We will offer some sessions electronically after the meeting and have recordings of some sessions available to view during the meeting,” says Dr. Mandell.

Meetings Committee

A separate subcommittee is devoted to planning a multitude of other ACR educational meetings, including the Winter Rheumatology Symposium; the State-of-the-Art Clinical Symposium in Chicago each April; Innovative Therapies, which cover the latest developments in treatments; and special programs for pediatrics, including the Pediatric Rheumatology Review Course and—new for 2008—the ACR Keystone Pediatric Rheumatology Symposium.

Although the Professional Meetings Committee oversees all these activities, “it does not necessarily plan them,” says Dr. Ramsey-Goldman. Planning groups with expertise in the relevant areas develop the individual programs.

Professional Meetings Committee chair Robert C. Fuhlbrigge, MD, PhD, assistant professor of pediatrics at Harvard Medical School in Boston, explains: “Each of these smaller meetings has grown in its own right to become significant. Each has evolved to meet members' needs.”

Professional Development

This committee has “developed modules of educational content for credits toward recertification, and also for practice improvement,” says Dr. Ramsey-Goldman. “These were created from scratch, and are available online.”

The chair of the Continuous Professional Development Committee (CPD) is Audrey B. Uknis, MD, associate professor of medicine at Temple University School of Medicine in Philadelphia.

“We're responsible for developing programs and products that interface with the American Board of Internal Medicine's [ABIM's] Maintenance of Certification [MOC] program,” explains Dr. Uknis. “These programs have multiple cross-purposes; they allow ACR members to get MOC credits, and they meet the needs of the education committee itself by providing information on what's needed in continuous education.”

She adds that her committee's work has been “a real multidisciplinary effort on the part of the ACR to meet the needs of members who are involved in practice or education, and keep everyone current; meet their CME needs, recertification needs, and training needs; and disseminate quality-of-care standards.”

A new product from the CPD debuted in March of this year: a practice improvement module (PIM) called Assess, Improve, Measure (AIM).

“This is a continuous quality-improvement program where we'll examine practice habits with respect to specific guidelines so a practice can see how well it adheres to those guidelines,” says Dr. Uknis. AIM is a Web-based data-collection tool that generates a report telling the practitioner how often things were done. “The practitioner can then determine how to do things better, whether it's incorporating a reminder to do something, using a new form for patients to fill out, or finding a new way to schedule or communicate,” explains Dr. Uknis. “The practice has 14 days to enter data from 25 patient records. Once they get their report, they have six months to make any changes, and then they re-survey the patient data to see how they're doing.”

At that point, the program is officially complete, but the same practice can repeat AIM, with the same guidelines or different ones. “The guidelines topic for 2006 is rheumatoid arthritis,” says Dr. Uknis. Next year, the ACR will release a PIM on gout. Practices that want to repeat AIM can build on their existing data.

“Eventually, this data will be benchmarked for practices around the country and you can see how your practice measures up to similar practices,” says Dr. Uknis.

The CPD is also responsible for the Board Recertification Course, a case-based topic review using cases provided by ABIM. “Participants will get a clear view of what types of cases and topics the ABIM is interested in,” says Dr. Uknis. “Participants get ABIM MOC and CME credits for the course.”

Another CPD product is ABIM Learning Sessions, which are six-hour, case-based courses. “They're based on 60 questions provided by ABIM, which provide recertification ‘knowledge points’ that participants can acquire, with the assistance

Outcomes measures also make the patient visit more efficient, says Dr. Bergman. Specifically, the RAPID assessment enables him to quickly determine whether or not a patient is experiencing pain or having trouble with joint function.

Dr. Harrington notes that, by standardizing the data set and having the patient self-generate information that becomes part of clinical record, his practice saves about 40% of previous traditional patient visit time. “This is time that can be spent discussing important problems and treatment or doing other work,” he says. Additionally, having a standard data template saves about 40% of dictation time.

Despite some of the challenges inherent in collecting data, “the impacts on our practice and patient care are greater than we imagined,” concludes Dr. Harrington. | THE RHEUMATOLOGIST |

Heather Lindsey is a medical journalist based in New York City.

of very knowledgeable faculty,” says Dr. Uknis. This is presented prior to the Annual Scientific Meeting in the fall.

The CPD also handles ACR's self-assessment program, Continuous Assessment Review and Evaluation (CARE). “It's Web-based, consists of 60 ABIM-type self-assessment questions, and provides educational links to assist in reviewing the question topics and finding the answers,” explains Dr. Uknis. Features include “treatment guidelines, arthritis and rheumatism literature, and up-to-date links. Participants can get ABIM and CME credit for this.”

Audiovisual Aids Subcommittee

The Committee on Education also encompasses a subcommittee devoted to audiovisual learning aids. Terry M. Wolpaw, MD, associate professor of medicine at Case Western Reserve University School of Medicine in Cleveland, is the Audiovisual Aids Subcommittee chair.

“Our goal, predominantly and almost exclusively, focuses on the image collection,” she explains. “It's a repository of rigorously peer-reviewed images of common diseases as well as rare manifestation of diseases. It includes radiology and clinical images. It's used to teach students across the entire spectrum, from medical students to practicing rheumatologists.”

The subcommittee holds a call for submissions every year, and each time they receive approximately 200 image submissions. From these, the subcommittee selects the best overall image, and first- and second-place images in each category.

Of the remaining selections, the subcommittee may choose anywhere from 50 to 75 to add to the image collection. “The second phase of our work is for committee members to write captions for those, which are also peer-reviewed,” explains Dr. Wolpaw. “The collection grows every year.”

Dr. Wolpaw adds that in the future, the collection will be available online. “We recognize how people learn and how people teach—mostly they use their computers,” she says. “We want to keep the collection user-friendly and accessible. It will be much more dynamic, and not limited to static images.”

With all of these educational options, there is something to meet the needs of rheumatologists and health professionals in all types of practices, labs, and institutions. For the latest information on meetings and educational events, teaching products, and other initiatives of the Committee on Education, visit www.rheumatology.org. | THE RHEUMATOLOGIST |

Jane Jerrard is writing the series on ACR committees.

Reading RHEUM

HANDPICKED REVIEWS OF CONTEMPORARY LITERATURE

OSTEOPOROSIS

More Men Could Benefit from Osteoporosis Screening

>> By Eric S. Schned, MD

Schousboe JT, Taylor BC, Fink HA, et al. Cost-effectiveness of bone densitometry followed by treatment of osteoporosis in older men. *JAMA* 2007;298(6):629-637.

Abstract

Objective: To evaluate among older men the cost-effectiveness of bone densitometry followed by five years of oral bisphosphonate therapy to prevent fractures for those found to have osteoporosis (femoral neck T-score ≤ -2.5), compared with no intervention.

Design, Setting, Population: Computer Markov microsimulation model using a societal perspective and a lifetime horizon. Simulations were performed for hypothetical cohorts of white men with or without prior clinical fracture. Data sources for model parameters included the Rochester Epidemiology Project for fracture costs and population-based age-specific fracture rates; the Osteoporotic Fractures in Men study and published meta-analyses for the associations among prior fractures, bone density, and incident fractures; and published studies of fracture disutility.

Main Outcome Measures: Costs per quality-ad-

justed life-year (QALY) gained for the densitometry and follow-up treatment strategy compared with no intervention, calculated from lifetime costs and accumulated QALYs for each strategy.

Results: Lifetime costs per QALY gained for the densitometry and follow-up treatment strategy were less than \$50,000 for men 65 or older with a prior clinical fracture and for men 80 or older without a prior fracture. These results were most sensitive to oral bisphosphonate cost and fracture reduction efficacy, the strength of association between bone mineral density (BMD) and fractures, fracture rates and disutility, and medication adherence.

Conclusions: Bone densitometry followed by bisphosphonate therapy for those with osteoporosis may be cost effective for men 65 or older with a self-reported prior clinical fracture and for men aged 80 to 85 with no prior fracture. This strategy may also be cost effective for men as young as 70 without a prior clinical fracture if oral bisphosphonate costs are less than \$500 per year or if the societal willingness to pay per QALY gained is \$100,000.

Commentary

The impact of osteoporosis in older men is being belatedly recognized.¹ Sixty-year-old white men have a 29% chance of osteoporotic fracture before they die.

One-third of all hip fractures occur in men and are associated with higher mortality than those in women.²

Universal bone densitometry for women 65 and older has been shown to be cost-effective and is widely advocated.³ However, because the age-specific prevalence of osteoporosis and incident fracture rates are much lower in men than women, it is not obvious that bone density screening followed by treatment of men with osteoporosis is cost effective at any age. The lack of cost-effectiveness analyses and, therefore, consensus on screening for osteoporosis in men may be responsible for low rates of clinical intervention.

The purpose of this modeling study was to estimate lifetime costs and health benefits of bone densitometry followed by five years of oral bisphosphonate therapy for men who are found to have osteoporosis compared with no intervention.

The authors used a Markov microsimulation model for hypothetical cohorts of white men with and without prior clinical fracture. Fracture disutility was modeled as a lower QALY value compared with the no-fracture state. Data for fracture rate and risk were derived from a variety of sources. The authors assumed a direct medical cost of \$1,000 per year for oral bisphosphonates, published costs of acute clinical fractures, and long-term care costs after hip fracture.

The lifetime costs per QALY gained were less

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than \$50,000 per year for men with prior fractures over 65 and for men over 80 without a fracture. For men without fractures up to age 80, costs per QALY exceeded \$50,000 per year.

The analysis was especially sensitive to the cost of oral bisphosphonates. If the costs are reduced by half to \$500 per year (this may be realistic because alendronate loses patent protection in 2008), then the cost per QALY for 70-year-old men without prior clinical fracture is less than \$50,000 per year (versus \$70,000 per year at a cost of \$1,000 per year).

Will this study offer any guidance for clinical decisions? Probably like many rheumatologists, I obtain

BMD testing on men who suffer a fragility fracture or who are on corticosteroids or have other risk factors, such as hypogonadism. This study confirms the cost effectiveness of this strategy after clinical fracture, but doesn't speak to the cost effectiveness of routine screening and treating of men with other risk factors.

Importantly, the study will probably make me consider offering BMD testing to men 80 and older regardless of other risk factors. However, an important consideration that must be addressed before this becomes widespread practice is reimbursement. Currently, Medicare covers BMD scanning for men who have a prior fracture, are on glucocorticoids, or have

height loss. Unless these restrictions are loosened, more widespread screening probably will not occur. The results published here could provide an impetus for Medicare to add the indication for men over 80.

THE RHEUMATOLOGIST

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METRICS IN RHEUMATOLOGY

To Measure Is to KNOW

Piet van Riel, MD, PhD, shepherd of RA improvement criteria

>>By Gretchen Henkel

Dutch rheumatologist Piet L. van Riel, MD, PhD, still recalls his resistance in 1980 when he was required to spend time in the rheumatology department as part of his internal medicine training at the Radboud University Medical Centre in Nijmegen, the Netherlands. “I didn’t want to go the rheumatology department,” says Dr. van Riel from his home in Nijmegen. “In fact, in the beginning, I was more interested in becoming a hematologist. I had the idea that rheumatology patients had many complaints and that you couldn’t do a lot to help them—there were no adequate treatments at that time—and so I thought it was not going to be very stimulating there.” What he found was just the opposite: he became interested in the possibilities for clinical research afforded by long-term contact with rheumatology patients.

Until that point, Dr. van Riel had been fully intending to pursue a career in hematology. He had already spent several months at the Royal Marsden Hospital Institute of Cancer Research in London working on cell apheresis during his third year in medical school. “What most attracted me at that time about hematology was that it was a combination of doing research in the laboratory and having clinical contact with patients,” he says. “That was a nice way of combining research and patient care.” As it turns out, Dr. van Riel’s career in rheumatology during the last three decades has interwoven both of those important components, combining clinical and laboratory research and care for patients, and has included collaborations with many of the world’s top researchers.

Mentors and Early Work

Two key people in the rheumatology department at Radboud University catalyzed Dr. van Riel’s initial research efforts in rheumatology: Leo van de Putte, MD, PhD, and Professor Frank W.J. Gribnau MD, PhD. At their invitation, he began work on a randomized clinical trial comparing oral gold versus parenteral gold, which became his PhD thesis.

It was during his work with this study that the idea for what was later to become the Disease Activity Score (DAS) began. To explore a possible correlation between therapeutic response, adverse reactions, and genetic susceptibility, the research team performed HLA typing on the 52 study participants. In the process of defining categorizations for responders and non-responders, Dr. van Riel recalls that his mentor Dr. Gribnau drew his attention to a paper describing the Mallya Index.¹

“I remodeled that index for our population,” he

explains. “I found out that if you combined the percentage of change in disease activity, using this index, with the degree of disease activity attained, you could come up with a correlation between genetic markers and response markers.”²

When Less Can Be More

The oral versus parenteral gold trial was a small study, and Dr. van Riel wanted to investigate whether the disease activity index could be improved by studying a larger patient population for a longer period of time. (The follow-up on the smaller trial was only one year.) The team at Radboud was interested in starting investigations on a larger cohort of patients with early rheumatoid arthritis and following them intensively every month for a longer period.

Work began on this project in 1987, when Désirée van der Heijde, MD, PhD, now professor of rheumatology at University Hospital Maastricht in the Netherlands and a renowned outcomes researcher, was a PhD candidate under Dr. van Riel’s supervision. Dr. van der Heijde recalls the time as very exciting: “We started with a database with a lot of numbers and figures and had to find out how to construct a combined disease activity score and then do all the analysis. At each step in the research, we had to define how to do that step, and then the next step.”

She recalls many long hours spent in front of the computer screen with statistician Martin van’t Hof, PhD, to develop the DAS, which was always discussed and supervised by Dr. van Riel. Dr. van Riel, who was what the Dutch call a “promotor,” or supervisor of her PhD thesis, was “always available for discussions” about the work, she says. The first DAS included the Ritchie articular index, the 44 swollen-joint count, the erythrocyte sedimentation rate, and an assessment of the patient’s general health using a visual analog scale, and was developed during Dr. van der Heijde’s PhD work.^{3,4} She later moved to another medical center after she had completed her rheumatology training at Radboud.

Since that time, the DAS has been extensively



On a recent trip to Japan, Dr. van Riel visited the Golden Pavilion in Kyoto.

validated and has undergone several refinements. Dr. van Riel continued on to develop the DAS28, which uses 28 joint counts to monitor disease activity.

Dr. van Riel also worked hard to promote the DAS concept as a tool for assessing disease progression in trials and clinical practice. The DAS28 continues to be used as an instrument for monitoring treatment with DMARDs and biologicals. “If you ask 10 people to comment on Piet van Riel,” says Robert Landewé, MD, associate professor of rheumatology and clinical rheumatologist at the University Hospital in Maastricht and consultant rheumatologist at the Atrium Hospital in Heerlen, “I’m sure that 10 out of 10 will come up with [the association of] the Disease Activity Score, which was invented by Désirée van der Heijde under his supervision,” he says. “The fact is that he has promoted the Disease Activity Score as the measure of choice in the EULAR [European League Against Rheumatism] community, and proposed that EULAR adopt response criteria analogous to the ACR response criteria.”

Interestingly, the Dutch population presented certain limitations that the investigators turned to their advantage. From James F. Fries, MD, professor of medicine at Stanford University School of Medicine (Calif.), and others working with longitudinal patient databases, Dr. van Riel learned that it is important to collect data, to quantify the amount of response and the amount of disease activity. “But, I also learned that it was not possible to do that [on the same large scale] in the Netherlands,” he says, “because we are a

CAREER TIMELINE

1978—Graduates from Catholic University of Nijmegen.

1985—Completes internal medicine training at St. Radboud Ziekenhuis in Nijmegen.

1986—Completes rheumatology training at Academic Hospital in Nijmegen.

1987—Accepts position as associate professor of rheumatology at University Hospital in Nijmegen.

very small country and we have fewer patients.”

His solution? “It’s better to do the same kind of research (collecting data and following patients long-term) but to do it more intensely,” says Dr. van Riel. A national characteristic which facilitated this idea, he explains, is that patients in the Netherlands do not move around as much as their counterparts in the United States. “They will continue to visit you [the rheumatologist] for many, many years. We have patients who have been in our study for 20 to 25 years and have not moved,” he says. “So the advantage is that you can do more precise assessments and you can get a lot more information than if you combine patients in your study from many different centers.” The latter approach, notes Dr. van Riel, can introduce “a lot of noise and variation” into statistical analyses, because patients at different centers will be assessed by different teams of physicians and nurses.

It Takes a Team

Another influence on Dr. van Riel’s thinking about assessment was Howard A. Bird, MD, professor of pharmacological rheumatology at Leeds University in the U.K., who wrote a book about multidisciplinary care of rheumatoid arthritis patients. Dr. van Riel and his colleagues adopted Bird’s approach, which relied on utilization of a nurse-specialist for patient education and clinical assessments, easing the burden on rheumatologists to conduct assessments for their studies. This made collection of data easier, and also motivated patients, says Dr. van Riel, because they benefited from the counseling that nurses delivered.

The approach was not uniformly embraced by his colleagues, however. In the beginning, not all rheumatologists liked the multidisciplinary approach. “They felt, ‘I am responsible for my patients and they should discuss all their problems with me,’” he notes wryly.

It took some time for the approach to be accepted. Dr. van der Heijde notes that the approach “was indeed new at that time. More and more centers are now doing this, but at that time there were very few.” Dr. Landewé agrees: “Initiating that early RA cohort with the help of research nurses was very innovative and unprecedented in those days.”

Dr. van Riel’s approach to research is also collaborative, notes Pilar Barrera, MD, PhD, of the rheumatology department at Radboud University Medical Centre. “He is a collaborator, and he’s a thinker, but he’s also someone who lets other people think about what should be done,” says Dr. Barrera. “We have many weekly meeting moments in which people from several disciplines come together. Together—rheumatologists, biomedical scientists, laboratory researchers—we make, I think, the perfect team.”

Free Time is Limited

Dr. van Riel has authored more than 250 scientific articles, and served as Chairman of the EULAR Standing Committee for International Clinical Studies including Therapeutic Trials from 1999–2004. As the chair of the Dutch Society of Rheumatology, he has accomplished much important work in the Netherlands in that capacity, according to Dr. Landewé. His own research and publications, as well as travel to medical meetings and guest lectureships worldwide (he recently returned from a trip to Japan) leave little time for relaxation. “The free time is always limited,” he laughs, “but I do like to work in the garden, when possible. On Saturday mornings I run with a group of people, and at least once during the week as well.” He also participates in the yearly Zevenheuvelenloop (Seven Hills) 15k run in his hometown of Nijmegen.

Dr. van Riel, his wife, and three daughters (one still lives at home) like to relax at home during the holidays. They also enjoy travel to Canada and the United States—especially California, where he appreciates the relaxation of driving in the wide-open spaces of the West—a real contrast, he says, to the heavy traffic on the European continent.

Contributions and Assessment Barriers

Asked about his contributions to the field of rheumatology outcome measures, Dr. van Riel tellingly uses the pronoun “we” and not “I” to characterize his work. He believes he and his colleagues were “a little bit lucky” to have begun their work on assessments in the mid 1980s. When new treatments for RA, especially the biologicals, became available in the mid 1990s, there was more of a need for an instrument to evaluate different treatments. “So, we were lucky that we developed those instruments and that, later on, treatments became available that needed an instrument to assess the response to those treatments,” he says. “This allowed the ability to titrate doses in your patients.”

Dr. Landewé lauds his colleague’s modesty: “I believe he has done very good work in determining the relationship between disease activity, function, and radiographic damage. Under his guidance and supervision, a lot of longitudinal statistics have been incorporated into the field of rheumatology.”

The development of the DAS and other assessments also converged with efforts on the international level to standardize assessments. Before the 1980s, Dr. van Riel notes, “every rheumatologist was assessing patients in their own way, and publishing in different ways. Therefore, you couldn’t compare results of the different trials with each other.” Another serendipitous occurrence was the growing level of patient involvement in their treatments. Dr. van Riel recalls a marked change in the 1980s when patients became interested in knowing “the exact details of their medical story—their response to treatments and how their disease was progressing.”

Philosophical about Acceptance

Dr. van Riel notes that assessment instruments are not used by practicing rheumatologists as much as he would like. “You know, when we developed this instrument and published it and talked about it at conferences, I thought, ‘That’s it: We have shown that it is worthwhile to assess patients in this way, so everybody should do it. ... And that was 15 years ago!’” he says.

Dr. van Riel says he has realized that it takes “a long, long time” to convince colleagues about the usefulness of these measures. He concedes that time may be the biggest barrier. “Incorporating this kind of assessment in your outpatient clinic routine means you have to prioritize and rearrange the way you perform patient examinations,” he says.

By all accounts, Dr. van Riel has been quietly but unswervingly dedicating himself to the principles of assessment in RA—and will continue to do so. Dr. van Riel is a per-

son of commitment, says Dr. Barrera, who considers him not only her mentor but her friend. “He’s kept to his idea that measuring gives an improvement in the way to treat patients,” she says. “To measure is to know—and that’s something he introduced.”

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Gretchen Henkel is writing the “Metrics in Rheumatology” series.

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DAS DETAILS ONLINE

Log on to the Radboud University Medical Centre’s “Home of the DAS” Web page, www.das-score.nl, for comprehensive information on the DAS, including various versions of the scoring systems, formulas to convert DAS data to DAS28 scores, and how-to videos on conducting a DAS28 examination.

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1993—Becomes duty head of rheumatology and director of the clinical research unit at University Hospital.

2003—Accepts position as head of rheumatology at University Medical Centre St. Radboud.

1987—Work on the Disease Activity Score begins.

1997—Becomes professor of rheumatology at the University Hospital.