

## Top 10 Arthritis Events of 2007

### 1) Passage of FDA Legislation on Drug Regulation and Safety

Congress passed the Food and Drug Administration Amendments Act of 2007, and it was signed into law by President Bush in September. The Arthritis Foundation, working in coalition with several organizations, supported this legislation, which increases the FDA's authority to regulate drugs. The bill renews for five years two programs that collect fees from drug and medical device manufacturers to defray the FDA's expense in reviewing products. Although the FDA's focus traditionally has been on the approval of new drugs, Congress also used the bill as a vehicle to expand the FDA's powers to police drug safety.

The bill gives the FDA the power both to require drug companies to conduct additional studies to further assess the safety of medicines and to mandate new label warnings when problems become apparent. It also requires companies to publicly release results of all clinical trials that show how well their drugs performed. The FDA also gains the ability to fine drug companies for not completing follow-up studies on their drugs after they've received government approval. Direct-to-consumer advertisements, such as television commercials, will now be more strictly regulated by the FDA. The agency can review drug ads and fine companies for false or misleading claims, but it cannot ban them.

Two pediatric drug programs also were reauthorized for five more years as part of this legislation. The Pediatric Research Equity Act of 2007 requires a drug or biologic manufacturer that submits an application to the FDA to also submit a pediatric assessment. The Best Pharmaceuticals for Children Act of 2007 grants an additional six-months of marketing exclusivity to a manufacturer of a drug in return for pediatric use studies and reports.

*Source:*  
*US Food and Drug Administration*

### 2) Quantification of Work Limitation and Earnings Losses

The Centers for Disease Control and Prevention (CDC) released results of two surveys calculating the high cost of arthritis. In the United States, arthritis-attributable work limitation (AAWL) affects one in three working-age adults (aged 18 to 64 years) with doctor-diagnosed arthritis. By analyzing data from the 2003 Behavioral Risk Factor Surveillance System (BRFSS) survey, the CDC estimated that work limitation among working-age adults with doctor-diagnosed arthritis ranged from 25.1 percent in Nevada to 51.3 percent in Kentucky; the median among all states was 33.0 percent.

The second study demonstrated that, in 2003, the economic costs of low employment among those with arthritis were substantial. State-specific earnings losses attributed to arthritis and other rheumatic conditions were estimated to range from approximately \$79 million in Washington, D.C., to nearly \$4.3 billion in California.

Using Medical Expenditure Panel Survey data, the CDC analyzed direct costs (i.e., medical expenses) and indirect costs (i.e., lost earnings) attributable to arthritis and other rheumatic conditions (AORC) during 2003. The total cost of AORC in the United States was approximately \$128 billion, which is equivalent to 1.2% of the 2003 gross domestic product. Of that \$128 billion, \$80.8 billion were attributa-

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ble to direct costs, yielding an average per-person direct cost of \$1,752 per year. Of the \$128 billion total, \$47.0 billion were attributed to indirect costs, yielding a per-person lost earnings of \$1,590 among working-age adults.

Total costs attributed to AORC have increased substantially since 1997, and that increase is expected to continue because of the aging of the population and increases in obesity and physical inactivity.

*Sources:*

*Morbidity and Mortality Weekly Report (MMWR) January 12, 2007.*

*MMWR October 12, 2007.*

*Yelin E, Murphy L, Cisternas MG, et al. Medical care expenditures and earnings losses among persons with arthritis and other rheumatic conditions in 2003, and comparisons with 1997. Arthritis & Rheumatism 2007;56:1397-1407.*

*Theis KA, Murphy L, Hootman JM, et al. Prevalence and correlates of arthritis-attributable work limitation in the US population among persons ages 18-64: 2002 National Health Interview Survey Data. Arthritis & Rheumatism (Arthritis Care & Research) 2007;57:355-363.*

### 3) Projections of Increases in Doctor-Diagnosed Arthritis and Arthritis-Attributable Activity Limitation

Arthritis and other rheumatic conditions (e.g., gout, lupus and fibromyalgia) affect approximately 46 million adults in the United States. The number of U.S. adults with doctor-diagnosed arthritis has been projected to reach nearly 67 million by the year 2030, including 25 million adults who are expected to have arthritis-attributable activity limitations. By applying state arthritis prevalence estimates from 2005 to projected state population data for the year 2030, the Centers for Disease Control and Prevention was able to estimate state-specific prevalence increases. The results indicate that the average projected increase in doctor-diagnosed arthritis from 2005 to 2030 will be 34 percent. Plus, a total of 10 states are projected to have increases between 50 percent and 99 percent, and three states are projected to see their numbers more than double.

Florida is projected to have the largest increase in the absolute number of people with doctor-diagnosed arthritis, with an estimated swell of 3.7 million people. Likewise, Florida is predicted to have an increase in those with arthritis-attributable activity limitation of 1.3 million people. Primarily because of

an expected population decline, the District of Columbia is projected to have the only decrease in the country in the numbers of adults with doctor-diagnosed arthritis and arthritis-attributable activity limitations.

*Sources:*

*MMWR May 4, 2007.*

*MMWR June 22, 2007.*

### 4) Identification of RA Susceptibility Genes *STAT4* and *TRAF1-C5*

The advent of single-nucleotide polymorphism (SNP; pronounced “snip”) assays over the past several years has allowed genetic evaluations to be performed in a fraction of the time it used to take. These technological advances have made for a virtual explosion of scientists’ ability to link genetic variants with disease susceptibility. Associations that used to take years to identify in the laboratory now take just a couple of days. Past Arthritis Foundation grant recipient, Peter K. Gregersen, MD, of the Feinstein Institute for Medical Research in Manhasset, N.Y., and a huge international team of investigators announced this year two genes that are associated with an increased risk of developing rheumatoid arthritis (RA). Combined with three previously recognized susceptibility genes, these two newly identified genes give us five in total that are definitely linked to RA.

The two genes found this year to be important in RA and systemic lupus erythematosus are *STAT4* and *TRAF1-C5*. Although common genes, researchers found that having certain variations of the genes increased disease risk. The results regarding *TRAF1-C5* were verified by a Swedish team later in the same month as Dr. Gregersen’s announcement.

Having two copies of the risk variant of *STAT4* was associated with a more than doubled risk for lupus and a 60 percent increased risk for developing RA compared with people who did not have these genes. *TRAF1-C5* are actually two genes that lie very close together on chromosome 9. Exactly which gene at this location is the susceptibility gene has not yet been determined. What is known, however, is that people with a particular variant at this chromosome location had a 35 percent increased risk of developing RA compared to those without that variant.

Sources:

Plenge RM, Seielstad M, Padyukov L, et al. TRAF1-C5 as a risk locus for rheumatoid arthritis – a genomewide study. *N Engl J Med* 2007;357.

Remmers EF, Plenge RM, Lee AT, et al. STAT4 and the risk of rheumatoid arthritis and systemic lupus erythematosus. *N Engl J Med* 2007;357:977 – 86.

Kurreeman FAS, Padyukov L, Marques RB, Schrodi SJ, Seddighzadeh M, et al. A candidate gene approach identifies the TRAF1/C5 region as a risk factor for rheumatoid arthritis. *PLoS Med* 2007;4(9):e278.

## 5) Uncovering the Importance of Cadherin 11

Researchers supported in part by the Arthritis Foundation uncovered a pathway that regulates joint destruction associated with inflammatory arthritis. Researchers David M. Lee, MD, PhD, and Michael Brenner, MD, of Brigham and Women’s Hospital, Harvard Medical School in Boston, along with an international team of scientists, found that blocking the action of a protein called cadherin-11 prevents the joint destruction that characterizes inflammatory arthritis in laboratory mice. They are hopeful that their success in mice will lead to a new treatment option for people with rheumatoid arthritis and other inflammatory joint diseases.

The research team studied mice specially bred to develop autoimmune arthritis, some of which could produce cadherin-11 and some of which could not. They also examined cadherin-11 as a therapeutic target against autoimmune arthritis in these mice.

Drs. Lee and Brenner and their team discovered that when there is no cadherin-11 present in inflamed joint tissue, the structural changes that damage the joint were not seen. Furthermore, they found that by interfering with the function of cadherin-11, inflammatory arthritis could be prevented in mice that had not yet developed the disease and could be alleviated in mice with established arthritis.

In mice with genetic arthritis but without the ability to produce cadherin-11, invasion of synovial tissue into the cartilage (called pannus formation) was “markedly diminished.” Looking at the joint tissue under the microscope, the researchers were able to determine that there was an 80-percent reduction in cartilage erosion in the cadherin-11-deficient mice compared with the mice that could make cadherin-11.

Source:

Lee DM, Kiener HP, Agarwal SK, et al. Cadherin-11 in synovial lining formation and pathology in arthritis. *Science*. E-pub ahead of print January 25, 2007.

## 6) Development of a Woven Mesh for Cartilage Engineering

Although cartilage is a relatively simple tissue, scientists still face challenges in engineering and growing replacement material that behaves like natural tissue. Biomedical engineers have been able to create rudimentary cartilage to replace cartilage damaged by arthritis, but they are still working to develop cartilage with the same mechanical and biologic properties as natural cartilage. Arthritis Foundation-funded researcher Farshid Guilak, PhD, of Duke University Medical Center, and colleagues at Duke and at the Massachusetts Institute of Technology in Cambridge took an important step toward surmounting these obstacles.

The team created a new framework structure upon which cartilage tissue can be grown. They developed a microscopic technology that weaves fibers in three directions – producing a “textile” with length, width and depth. This three-dimensional scaffold is porous so the fabric can be seeded with cells that have been suspended in a gel. The cell-infused fabric can then be transplanted into a damaged joint. This woven fabric shows better mechanical properties than previously used frameworks, allowing the cells time to grow and mature before the scaffold breaks down. The plan is that the gel and fabric will eventually degrade and be absorbed by the body, leaving only healthy, strong cartilage.

The next step for Dr. Guilak’s team is to test the engineered tissue on mice to ensure the cartilage will function properly. If everything progresses according to plan, a new form of engineered cartilage will be available to treat joints damaged by osteoarthritis or other cartilage injuries.

Source:

Moutos FT, Freed LE, Guilak F. A biomimetic three-dimensional woven composite scaffold for functional tissue engineering of cartilage. *Nature Materials* 2007;6:162 – 67.

## 7) Approval of Lyrica for Treatment of Fibromyalgia

Pregabalin (*Lyrica*) became the first drug to receive FDA approval for the treatment of fibromyalgia. Until 2007, all medications prescribed for the symptoms of fibromyalgia were approved for other indications and thus used “off-label.”

Fibromyalgia affects up to 6 million Americans, causes pain around the joints, tenderness in muscles and sleep problems

that lead to symptoms of fatigue. Altered function of the central nervous system is thought to be a possible cause.

Pregabalin is a medication originally developed for treating neuropathic pain (pain that occurs when nerve fibers are damaged or otherwise dysfunctional). Although the exact mechanism of action is unknown, pregabalin may modify the release of chemicals that nerves use to communicate with each other. Modifying that chemical release can give people with fibromyalgia relief from their pain.

The FDA approval of pregabalin was based on studies that showed *Lyrica* reduced pain and improved sleep in people with fibromyalgia.

*Source:*  
*Food and Drug Administration*

## 8) Availability of NIH's Osteoarthritis Data and Images

The Osteoarthritis Initiative (OAI) is a public-private partnership between the National Institutes of Health and private industry that seeks to improve diagnosis and monitoring of osteoarthritis and foster development of new treatments. Its objective is to collect, analyze and make widely available the largest research resource of clinical data, radiologic information, and biospecimens from individuals with early and progressive OA. Nearly 4,800 people are participating in the OAI at four centers around the United States. Some study members are at risk of developing knee OA, some are in the early stage of the disease and some have more advanced knee OA. Participants provide biological specimens (blood, urine and DNA); images (X-rays and magnetic resonance scans); and clinical data (such as dietary intake; medication use; and pain, function and general health assessments).

In 2007, the partnership released its fourth and largest set of data. This series of state-of-the-art images and clinical outcome information will expedite the pace of scientific studies and identification of biologic and structural markers for OA. These data and images have been made widely available to further drug development and improve the public health.

*Source:*  
*National Institute of Arthritis and Musculoskeletal and Skin Diseases*

## 9) Quantification of Children with Arthritis and Number of Doctors Needed

Juvenile arthritis is an umbrella term used to describe arthritis and related musculoskeletal disorders that affect children. In a study released this year, data from two national surveys were used to estimate annual doctor and hospital visits for juvenile arthritis. Visit estimates were converted into prevalence estimates using data on the number of previous annual visits per child. The study revealed that the estimated number of children with significant pediatric arthritis and other rheumatic conditions (SPARC) in the United States is 294,000. The number of health-care visits for SPARC was 827,000 including an average of 83,000 emergency room visits.

Identifying just how many children have arthritis puts focus on who provides medical care for these children. The Public Health Service Act of 2000 mandated that the number of pediatric rheumatologists be evaluated to determine if that number is sufficient to address the health-care needs of children with arthritis and related conditions. Furthermore, the Act states that if the number is not sufficient, “strategies shall be developed to address the shortfall.” The Report to Congress was released this year and determined the following:

- There is a shortage of pediatric rheumatologists in the United States. Thirteen states lack a pediatric rheumatologist, and throughout the country provider-to-population ratios exceed practice capacity.
- There is evidence of substantial reliance on internist rheumatologists (those that specialize in the care of adults with rheumatic diseases) to compensate for the lack of pediatric rheumatologists.
- The majority of pediatric rheumatologists practice in academic medical settings where they function as patient care providers, medical educators, and researchers. Efforts to increase the availability of clinical time for current pediatric rheumatologists and attempts to increase their numbers are warranted.
- In some states, estimates indicate there are more than 3,000 children with rheumatic diseases per pediatric rheumatologist, a number that far exceeds the average practice capacity of 443 children.

- Statistical models estimate that at least 337 pediatric rheumatologists are needed to meet patient care needs. Given the current number of pediatric rheumatologists, a 75-percent increase in the number of pediatric rheumatologists is needed.

Several approaches to increasing access to pediatric rheumatology care were proposed in the report.

- Enhance the availability and financing of fellowship training to increase the number of trainees in the field.
- Increase the number of trainees by including incentives to practice in underserved areas after completion of training.
- Reallocate resources to increase the number of trainees as well as the number of pediatric rheumatologists practicing in underserved areas.
- Improve the financial viability of pediatric rheumatology practice in academic settings.
- Enhance the ability of internist rheumatologists and primary care providers to care for children with rheumatic diseases through education and training.
- Extend the ability of pediatric rheumatologists to treat children by using nurses, advanced-practice nurses, and physician assistants to perform certain tasks.

As one of the 13 states with no practicing pediatric rheumatologist, Alabama was in desperate need of some intervention. The Alabama Chapter of the Arthritis Foundation, along with the University of Alabama at Birmingham and Children's Hospital of Alabama, launched an initiative to recruit pediatric rheumatologists to serve children living with juvenile arthritis. The culmination of this effort was the opening of Alabama's Pediatric Rheumatology Center this year.

Sources:  
*Health Resources Services Administration*

Sacks J, Helmick CG, Luo Y-H, Iltis NT, Bowyer S. Prevalence of and annual ambulatory health care visits for pediatric arthritis and other rheumatologic conditions, US, 2001-2004. *Arthritis Care Res* 2007;57:1439-45.

## 10) Evidence of Benefit and Safety of Biologic Therapy in Children

Although biologic agents are widely used in children with inflammatory forms of arthritis, only one biologic is currently

approved by the FDA for use in children. Whether additional biologics receive FDA approval or whether physicians will continue to prescribe them "off-label," clinical studies to determine proper dosing, efficacy rates and safety of these life-saving treatments are necessary. Results of several such studies were released this year.

Etanercept (*Enbrel*) was found to be safe in the long-term treatment of juvenile rheumatoid arthritis (JRA). After an original controlled trial completed, many of the participants continued in an open extension of the study. A total of 42 children continued taking the TNF inhibitor for four years and 26 continued for eight years. The researchers concluded, "The drug had a sustainable efficacy profile with a very beneficial safety profile."

Infliximab (*Remicade*) plus methotrexate therapy was studied in children with polyarticular juvenile rheumatoid arthritis (JRA). According to the study authors, the treatment produced "an important, rapid, and durable clinical effect in children with JRA at one year." Two dosages of the TNF inhibitor were tested: 3 mg/kg and 6 mg/kg. Both were generally well tolerated, but researchers found the safety profile of infliximab 3 mg/kg less favorable than the 6 mg/kg dose.

Two separate studies revealed that biologics (etanercept and infliximab) were an effective and well-tolerated therapy for children with the juvenile form of spondyloarthritis.

Biologic agents also were tested for use in treating uveitis, a common eye complication associated with JRA. The four agents tested in two separate studies (etanercept [*Enbrel*], infliximab [*Remicade*], adalimumab [*Humira*] and daclizumab [*Zenapax*]) all were safe to use in children. The authors concluded that these agents are useful for treating childhood uveitis that does not respond to other therapy.

Patients with JRA experienced marked improvements in their disease when being treated with adalimumab (*Humira*). After 16 weeks of therapy, 77 percent of participants had a decrease of at least 50 percent in their symptoms and 58 percent had at least a 70 percent decrease in symptoms. In an extension of the study, participants continued to have substantial improvement during two years of treatment, even when not receiving concomitant methotrexate.

Currently, the only biologic agent FDA approved for use in children with JRA is etanercept. However, based on previously released studies, applications have been filed for adalimumab and abatacept (*Orencia*).

*Sources:*

Reiff AO, Lovell DJ, Ilowite NT, et al. Safety and efficacy of over 8 years of continuous etanercept (Enbrel) therapy in patients with juvenile rheumatoid arthritis [Abstract]. Presentation number 682; American College of Rheumatology Annual Scientific Meeting 2007.

Prince FHM, Twilt M, Jansen-Wijngaarden NCJA, et al. Effectiveness of a once weekly double dose of etanercept in patients with juvenile idiopathic arthritis: a clinical study. *Ann Rheum Dis.* 2007;66:704 – 5.

Ruperto N, Lovell DJ, Cuttica R, et al. A randomized, placebo-controlled trial of infliximab plus methotrexate for the treatment of polyarticular-course juvenile rheumatoid arthritis. *Arthritis Rheum.* 2007;56:3096 – 106.


Foeldvari I, Ganser G, Roth J, et al. Etanercept is an effective therapeutic

option for children with juvenile idiopathic enthesitis related arthritis - results from the German Etanercept Registry [Abstract]. Presentation Number 225; American College of Rheumatology Annual Scientific Meeting 2007.

Tse SML, Burgos-Vargas R, O'Shea F, et al. Long term outcome of anti-TNF therapy in juvenile spondyloarthritis [Abstract]. Presentation Number 898; American College of Rheumatology Annual Scientific Meeting 2007.

Gallagher M, Quinones K, Cervantes-Castañeda RA, et al. Biological response modifier therapy for refractory childhood uveitis. *Br J Ophthalmol.* 2007;91:1341 – 4.

Foeldvari I, Nielsen S, Kummerle-Deschner J, et al. Tumor necrosis factor-blocker in treatment of juvenile idiopathic arthritis-associated uveitis refractory to second-line agents: results of a multinational survey. *J Rheumatol.* 2007;34:1146 – 50.

Lovell DJ, Ruperto N, Goodman S, et al. Adalimumab is safe and effective during long-term treatment of patients with juvenile rheumatoid arthritis: results from a 2-year study [Abstract]. Presentation number 681; American College of Rheumatology Annual Scientific Meeting 2007. 

## Highlights From ACR 2007

Here we summarize abstracts that were presented by Arthritis Foundation-Funded Researchers at the 2007 American College of Rheumatology/Association of Rheumatology Health Professionals Annual Scientific Meeting. Abstracts are displayed and discussed in poster sessions at the meeting, and often become the basis for full-length articles that will be submitted to scientific journals for peer review and publication.

### Patients' Knowledge of Arthritis

Karen Golan, Jamie Weiss, Lisa C. Vasanth, Stephen A. Paget, Theodore Fields, Melanie J. Harrison

Researchers from the Hospital for Special Surgery in New York, including Arthritis Foundation-funded scientists Lisa C. Vasanth, MD, and Melanie J. Harrison, MD, developed a pilot study to explore early arthritis patients' understanding of arthritis and inflammation. They conducted in-depth phone interviews with eight people with newly diagnosed rheumatoid arthritis or undifferentiated joint inflammation to identify gaps and misunderstandings in arthritis-related knowledge.

Questions asked of the participants focused on five areas of interest: what are arthritis and inflammation; who is at risk for

developing arthritis; what are its causes; what exacerbates or alleviates it; and what are the implications of arthritis for long-term outcome.

Some participants' knowledge about arthritis was accurate. For example, they understood that certain types of arthritis are autoimmune conditions, which can involve more than just the joints. However, the majority believed arthritis was a natural part of aging and typically affected the elderly. They also underestimated the potential for disability associated with inflammatory arthritis, especially without proper or early intervention.

Overall, the participants had a very basic knowledge of signs and symptoms of arthritis and inflammation. However, they possessed a limited understanding and often a misunderstanding of its treatment and long-term prognosis. The authors conclude, "Only by identifying these areas of misunderstanding can we develop effective educational tools for both patients and providers so that we can better advise patients, appropriately adjust perceptions and expectations, and communicate the seriousness of inflammatory arthritis."

## Stress and Coping in Children and Adolescents with Fibromyalgia

Christopher J. Libby, David S. Glenwick, Pamela J. Degotardi

Researchers from Fordham University in Bronx, N.Y., and Queens College in Flushing, N.Y., – including Christopher J. Libby, who received an Arthritis Foundation Summer Student Fellowship – applied a stress and coping model to juvenile fibromyalgia syndrome. Fifty-seven children diagnosed with juvenile fibromyalgia (ages 10 to 18 years) and their parents were recruited to the study and they completed several questionnaires regarding pain, stress, use of coping strategies, etc.

Significant correlations were found between daily hassles (such as homework and fear of being teased) and depression and between daily hassles and child-rated quality of life. High depression scores were related to low child-rated quality of life. High catastrophizing (persistent thoughts of “this is terrible, I can’t bear this, there’s nothing I can do to make this better, etc.”) scores were related to high ratings of current pain, worst pain in the past week and depression scores. High catastrophizing scores also were related to low child-rated quality of life. Good self-efficacy (the confidence that you are in control of yourself and of managing your disease) was associated with good child-rated quality of life. Low self-efficacy scores were associated with high depression scores, ratings of current pain and ratings of worst pain in the past week. Statistical analyses showed that stress due to daily hassles predicted the outcome measures of depression and child-rated quality of life, suggesting that stress may exacerbate health outcomes in juvenile fibromyalgia.

The results of this study suggest that catastrophic thinking and beliefs about one’s ability to overcome fibromyalgia are important targets for psychological intervention.

## Rheumatoid Arthritis Health Outcomes Are More Strongly Linked with Mutuality Than with Physical Affection

Shelley Kasle, Alex J. Zautra

Mutuality, the interest in sharing thoughts and feelings in close relationships, has been linked with better health outcomes for people with rheumatoid arthritis (RA). Physical affection, measured as frequencies of hugs, has been linked with lower stress in women. Because stress reactions have been

linked with disease activity in RA, researchers from University of Arizona in Tucson wanted to test the hypothesis that physical affection and mutuality would have comparable links with RA health outcomes.

Arthritis Foundation-funded researcher Shelley Kasle, PhD, and previous award recipient Alex J. Zautra, PhD, recruited for their study a total of 105 people with RA who were in committed relationships. They completed measures of mutuality, physical affection, and health outcomes: depressive symptoms, anxiety symptoms, physical disability and arthritis impact. Researchers analyzed the data looking for correlations among mutuality, physical affection and health outcomes.

Participants with higher levels of mutuality in their relationships reported better health. Correlations between health outcomes and physical affection were not significant.

One might suspect that a couple’s verbal and physical relationships would have similar associations with health outcomes in RA, but this study finds otherwise. The association between health outcome and mutuality was generally stronger than the association between health outcome and physical affection. With additional data, these findings could be interpreted as suggesting a potentially larger benefit from enhancing couples’ verbal relational behaviors than their physical ones.

## Fatigue, Discomfort, and Burden of Illness Among Sjögren’s Syndrome (SS) Patients in the United States

S. J. Bowman, B. M. Segal, P. C. Fox, F. B. Vivino, N. Murukutla, T. V. Kamath, M. Yin, L. McLean

A multicenter team of scientists, including Arthritis Foundation-funded researcher Barbara M. Segal, MD, of the University of Minnesota in Minneapolis, conducted the first, large, comprehensive study of burden of illness among people with Sjögren’s syndrome (SS) in the United States. Sjögren’s syndrome is a disorder characterized by dry eyes and mouth; when it occurs alone it is called primary SS, but it commonly accompanies a rheumatic disease and is called secondary SS.

Surveys were mailed to 8,694 members of the Sjögren’s Syndrome Foundation. Half the SS patients were asked to give a similar survey to a friend of the same sex and age with-

out SS. This cohort of friends formed the control group.

In total, 1,225 surveys from people with primary SS, 1,278 surveys from people with secondary SS, and surveys from 606 controls were returned. All SS patients reported significantly poorer health and functioning, greater fatigue and dryness, and higher scores on the pain, depression and impaired thinking scales than controls.

In conclusion, the authors found the comparison to the control group suggests patients' experiences of significant disability and burden of illness are related to the disease and not merely attributable to the natural processes of aging.

### Costs and Benefits of Strategies for Treating New Onset Rheumatoid Arthritis within 12 Weeks

A. Finckh, N. Bansback, C. Marra, A. H. Anis, K. Michaud, S. Lubin, M. White, V. Gall, M. H. Liang.

Information from recent studies suggests that if rheumatoid arthritis (RA) is treated early, remission may be possible. A multicenter team of scientists, using a gift from an anonymous donor and a grant from the Arthritis Foundation, conducted an economic analysis of three strategies for treating early RA.

The model the team used estimates the lifetime costs and benefits of treatments expressed as quality-adjusted life years

(QALYs). Three management strategies were compared for people with RA of less than 12 weeks' duration: A pyramid approach with a disease-modifying antirheumatic drug (DMARD) beginning at one year; early intervention with conventional DMARDs; and early biologics and methotrexate. The benefits of each treatment were calculated by estimating how each strategy impacted radiological progression, patient function, drug-related toxicities and life years.

Preliminary results suggested a strategy including early biologics gives the greatest lifetime benefit (11.2 QALYs) compared to conventional DMARDs (10.9 QALYs) and pyramid strategy (10.6 QALYs). Early biologic treatment is the most expensive strategy (\$83,000/lifetime) followed by early DMARD treatment (\$60,000/lifetime). However, the research team found that the additional costs of early treatment strategies are mostly offset by avoiding future hospitalizations and delaying hip replacements.

Using the most objective measures of RA progression (joint erosions and function), the researchers found that early initiation of DMARDs and biologics can prevent future disability and reduce long-term costs. The conclusions drawn by the research team are heavily dependent on the costs of the therapeutic interventions. The authors conclude, "Reducing the costs of biologics would improve the cost-effectiveness of this strategy." [RU](#)

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