

NIAMS Overview

improving
health

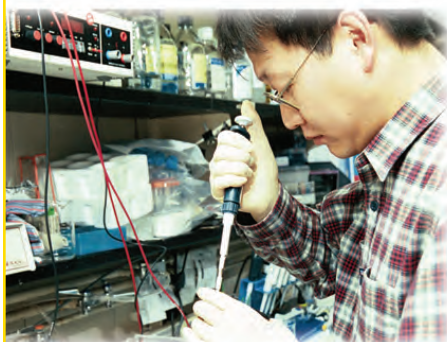


through
discovery

National
Institute of
Arthritis and
Musculoskeletal and
Skin Diseases

Making Progress and Offering Promise

Since its establishment in 1986 as one of the National Institutes of Health, the National Institute of Arthritis and Musculoskeletal and Skin Diseases (NIAMS) has been at the forefront of research into diseases that affect the joints, bones, muscles, and skin. The Institute has made important strides in understanding and treating common conditions and debilitating diseases such as:



- **Lupus:** Discovered genetic risk factors in lupus – which damages internal organs, joints, and skin – as well as a gene linked to increased risk of lupus kidney disease in African Americans.
- **Rheumatoid Arthritis (RA):** Developed a rodent model of RA – which causes inflamed joints – that helps explain how the hormonal and immune systems interact in this and other autoimmune diseases.
- **Fibromyalgia:** Found that people with fibromyalgia – a debilitating condition causing chronic widespread muscle pain and fatigue – show significantly lower brain blood flow than those of unaffected people, suggesting that brain structures involved in pain perception may contribute to symptoms.
- **Osteoporosis:** Increased understanding of the cause of and risk factors for the weak bone disease osteoporosis, which is enabling doctors to identify patients at high risk for developing the disease and to take steps to reduce that risk.
- **Bone and Cartilage Biology and Repair:** Discovered bone morphogenic proteins, which regulate bone growth and repair, and developed other insights into the molecular mechanisms of bone and cartilage.
- **Connective Tissue Diseases:** Created a mouse with a genetic condition that resembles Marfan syndrome – a potentially fatal condition that weakens tissues of the skeleton, eyes, lungs, heart, and blood vessels – which helps scientists better understand the disease and how to treat it.
- **Muscular Dystrophy (MD):** Found a way to deliver a new gene for the missing protein dystrophin in an animal model of MD, a genetic disease causing muscle weakness and degeneration.
- **Skin:** Designed drug delivery systems that allow slow release of medications through the skin, which has made it possible to deliver certain treatments through means such as skin patches.
- **Hair Loss:** Uncovered the molecular bases for several human hair diseases.

Combating Chronic Disease

Diseases of the bones, muscles, joints, and skin are among the most frequent chronic health problems in the United States, causing pain, disability, problems with appearance and self-esteem, and, in some cases, premature death.

With the support of the American people, NIAMS annually invests more than \$500 million into medical research against some of the most chronic, costly, and common conditions: those affecting bones, muscles, joints, and skin. NIAMS combats these diseases through research, education, and communication. It supports and conducts – throughout the country and on the National Institutes of Health (NIH) campus in Bethesda, MD – a multidisciplinary approach to disease that includes:

- basic and clinical investigations
- research centers
- epidemiologic research
- research training for scientists.

NIAMS also communicates research results and information through its Office of Communications and Public Liaison, the NIAMS Information Clearinghouse, and the NIH Osteoporosis and Related Bone Diseases~National Resource Center.

improving people's

supporting
medical research

training scientists

communicating
health information



quality of life

Extramural Program

The NIAMS Extramural Program supports research around the country through grants and contracts to universities, hospitals, and other organizations through four branches: Rheumatic Diseases, Musculoskeletal Diseases, Skin Diseases, and Muscle Biology. There is also an Epidemiology/Data Systems Program and a Centers Program. Together, these programs are pursuing basic and clinical research and research training that could help improve the lives of tens of millions of Americans, and perhaps one day eradicate some of the most common and disabling chronic diseases.



Intramural Program

The NIAMS Intramural Research Program conducts innovative research in its own laboratories while it trains scientists interested in pursuing research careers in NIAMS fields of interest. The program's goals are to provide new insights into the normal function of bones, muscles, joints, and skin (and diseases that affect them) and to develop well-trained investigators

who will continue the progress toward a complete understanding of these structures and the diseases that can adversely affect them.

Leading the Way

Throughout the country, NIAMS supports research at hospitals, universities, and medical schools. NIAMS is also training and mentoring the current and next generation of researchers to ensure that the capability to advance medical research remains strong. While most trainees stay for only a few years, their fresh perspectives and enthusiasm encourage novel approaches that stimulate and energize the research effort.

As one of the National Institutes of Health, NIAMS considers many different perspectives in establishing research priorities. A competitive peer-review system identifies and funds the most promising and highest quality research to address these priorities.

NIAMS' own scientists, and scientists working with support from NIAMS grants and contracts, have been responsible for medical advances that are making a difference in countless lives. These advances encompass some of the most common and debilitating chronic diseases in this country today as well as some rare and, in some cases, life-threatening diseases of the bones, muscles, joints, and skin.



connecting to NIAMS



The National Institute of Arthritis and Musculoskeletal and Skin Diseases

NIAMS, a component of the National Institutes of Health (NIH) within the U.S. Department of Health and Human Services, conducts and supports medical research on the causes, treatment, and prevention of diseases of bones, muscles, joints, and skin; trains scientists to carry out this research; and disseminates information on research progress to improve public health. Helping to lead the way toward important medical discoveries that improve people's health, NIAMS provides financial support to researchers in hospitals, universities, and medical schools throughout the country and to support the Intramural Research Program on the NIH campus in Bethesda, Maryland.

For more information on NIAMS, go to www.niams.nih.gov to link to the latest, reliable health information about diseases of bones, muscles, joints, and skin.

National Institute of Arthritis and Musculoskeletal and Skin Diseases

National Institutes of Health

U. S. Department of Health and Human Services

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Bethesda, MD 20892-2350

Phone: (301) 496-8190

Fax: (301) 480-2814

Access NIAMS Health Information Resources:

NIAMS Information Clearinghouse

National Institutes of Health

1 AMS Circle

Bethesda, MD 20892-3675

Phone: 301-495-4484 or 877-22-NIAMS (226-4267) (free of charge)

TTY: 301-565-2966

Fax: 301-718-6366

E-mail: NIAMSinfo@mail.nih.gov

www.niams.nih.gov/hi/index.htm

The clearinghouse provides information about various forms of arthritis and rheumatic diseases and bone, muscle, and skin diseases. It distributes patient and professional education materials and refers people to other sources of information.

NIH Osteoporosis and Related Bone Diseases-National Resource Center

2 AMS Circle

Bethesda, MD 20892-3676

Phone: (202) 223-0344 or (800) 624-BONE (2663) (free of charge)

TTY: (202) 466-4315

Fax: (202) 293-2356

www.niams.nih.gov/bone

The NIH Osteoporosis and Related Bone Diseases-National Resource Center provides patients, health professionals, and the public with an important link to resources and information on metabolic bone diseases. The mission of the center is to expand awareness and enhance knowledge and understanding of the prevention, early detection, and treatment of these diseases as well as strategies for coping with them. It provides information on osteoporosis, Paget's disease of bone, osteogenesis imperfecta, primary hyperparathyroidism, and other metabolic bone diseases and disorders.

Search NIH Resources:

NIH Health Information (<http://health.nih.gov/>). Information on diseases currently under investigation by NIH or NIH-supported scientists, major NIH research areas, and important health-related topics.

Medline Plus (<http://www.nlm.nih.gov/medlineplus/>). Access to extensive information about specific diseases and conditions; also has links to consumer health information from the National Institutes of Health, dictionaries, lists of hospitals and physicians, health information in Spanish and other languages, and clinical trials.

Clinical Trials Database (<http://clinicaltrials.gov/>). A searchable database of information about clinical research studies.