Pediatric Orthopedic Training Program

2000-2001

Children's Hospital - San Diego
and the
University of California
San Diego
Pediatric Orthopedic Training Program

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Children’s Hospital, San Diego
and
University of California, San Diego

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Introduction

Dear Colleagues:

The Pediatric Orthopedic Training Program at Children’s Hospital, San Diego, continues to be active in patient care, teaching, and research. This biennial report provides an update on the many changes and advances that have occurred over the last two years briefly and should help you to better understand our program. We have also added a section introducing and describing the activities of each of our full-time faculty for those who are less familiar with the history and development of our program.

Mission and Goals of the Program

Our full-time staff come from a variety of training program backgrounds with each being fellowship trained in pediatric orthopedics. Each has had exposure to several types of training programs which provided clinical experience in both partially private and full-time academic settings, including institutions dedicated solely to pediatric orthopedics. As a result of this exposure we have developed a consensus philosophy regarding our mission which is to provide efficient, empathetic state-of-the-art pediatric orthopedic and scoliosis care for children, adolescents, and young adults from throughout southern California, the southwest, elsewhere in North America, Mexico and the world.

Our goal is to provide, efficient, scientifically based care that is readily accepted by both the simplest of consumers as well as Ph.D. educated, internet literate families. Each appreciates and understands scientifically based, efficient, compassionate care. We believe that we are able to achieve this goal because we work in a unique institutional circumstance (Children’s Hospital, San Diego, and the University of California, San Diego) with excellent clinical facilities (Children’s Hospital, San Diego) as well as an extensive research program that supports advanced treatment methods for patients with pediatric orthopedic conditions and scoliosis.

Another benefit to our program is our good fortune of being based in one of the most beautiful and climatically ideal geographic locations on the globe (San Diego, California). This allows us to maintain a stable pediatric orthopedic staff and to select the best clinicians, researchers, and trainees from throughout North America and the world. Good climate, good sunshine, good bicycling, jogging, and surfing opportunities contribute immensely to our ability to attract outstanding staff, residents, fellows, and research personnel.
Infrastructure – Institutional Relationships

We have established an ideal, productive relationship with the University of California, San Diego (UCSD) Orthopaedic Department, chaired by Dr. Steven Garfin. The recently finalized amalgamation between UCSD, and Children’s, confirms Children’s Hospital-San Diego as the teaching institution for all UCSD Departments. All patient care and teaching will now be carried out on the Children’s Hospital campus with research being shared between the two institutions. This new relationship results in no change for our department, since orthopedics has been functionally “amalgamated” over the last 20 years, beginning with the Wayne Akeson—David Sutherland corroboration.

Changes – New Programs

Several important new developments have occurred over the last two years, which will be expanded upon later in this document.

Biomechanics Research Laboratory - Our research program has been greatly expanded by the development of the Biomechanics Research Laboratory under the direction of Dr. Peter Newton, who has been named Director of Orthopedic Research. Equipped with the latest biomechanical testing equipment, we are now able to perform advanced biomechanical research related to a variety of musculoskeletal conditions, including hip disorders, all aspects of scoliosis and spinal deformity, as well as fractures and other disorders. This laboratory work, along with extensive animal studies, has allowed Children’s Hospital, San Diego to become an internationally recognized center for biomechanical analysis of pediatric musculoskeletal conditions with its strongest focus being on the development of new methods for fiberoptic guided correction of spinal deformity. Dr. Newton has close academic affiliation with the UCSD Bioengineering Research Department and has also been named a Skaggs Scholar in the Scripps Institute – Children’s Hospital Program. Thus, basic and applied laboratory research continue to be an integral part of the Children’s Hospital training program.

Motion Analysis Laboratory - Dr. Hank Chambers was named as Medical Director of the Motion Analysis Laboratory. Dr. David Sutherland continues as Senior Medical Consultant to the Motion Analysis Laboratory and remains active in both clinical and research aspects of motion analysis. The Motion Analysis Laboratory is expanding its focus to include sports medicine analysis as well as a significant expansion into trunk shape analysis, including frontal and sagittal plane deformity measurement for scoliosis and spinal deformity.

Binational Pediatric Orthopedic Program

The Binational Program allows Children’s Hospital, San Diego fellows and staff to work with the orthopedic staff of the Hospital del Ninos in Tijuana. This provides an interesting internation experience for our fellows, as well as medical students, residents, and staff. Dr. Carlos Gutierrez-Loya of Tijuana provides wise leadership in Tijuana and collaborates with our staff and fellows in arranging surgical cases.
Each of our full-time academic staff continue to be very active in clinical care, teaching, and research on the local, national, and international levels. Later segments of this issue will clarify the activities of each. In addition to our full-time academic staff, many other physicians continue to make major contributions to our teaching program. Dr. David Sutherland remains active as the Senior Consultant to the Motion Analysis Laboratory, attends our teaching conferences, and provides advice on complex cases. He continues to travel nationally and internationally and, in fact, recently returned from a lecturing at the Pediatric Orthopedic Society of India (POSI) meeting (March 2000). Dr. Behrooz Akbarnia, Dr. Michael Casey, Dr. Lisa Miller, and Dr. James Moitoza also provide support in many of our patient care and teaching areas.
Support staff

We are blessed with superb support staff that allow our program to flourish. Lisa Crabb, RN, continues as coordinator of the residency and fellowship training program and also is involved in the organization of our incredibly efficient outpatient orthopedic clinics at Children’s Hospital. This includes helping to design our new expanded hospital orthopedic clinic system which will occupy the entire south end of the first floor of the hospital. Joan Morgan, PT, (and hospital clinic coordinator), is also a key member of the clinic team. For those of you who know our clinic, there is nothing quite like it elsewhere. Rapid turnover, rapid x-ray performance, yet high quality care remain our trademark.

Our research program has expanded exponentially under the direction of Dr. Peter Newton and research coordinator, Michelle Marks. Also Christy Farnsworth and Tracey Gaynor are active as assistant research coordinators. We have entered the digital age, and now have a strong, high technology focused medical illustration and publication department. J.D. Bomar has proven to be a brilliant electronic media expert and serves both as an orthopedic technician, but more importantly as a multimedia expert. This greatly expands our teaching and publication efforts. If you need a book chapter finalized by tomorrow, J.D., along with our efficient administrative team will have a clean manuscript, filled with great digital illustrations, burned on to a C.D. and in the Fed Ex outbox by noon. The 21st century is remarkable!

The training program administrative coordinator, Maria Miller, provides the backbone for organizing all training program activities, including both day-to-day issues, as well as arranging for call schedules, rotation schedules, fellow interviews, etc.

The development of our digital based multimedia division, founded and directed by J.D. Bomar, has revolutionized our efficiency in developing presentations, publications, videos, and patient education materials. The fellows and residents have ready access to this department, allowing them to quickly and efficiently develop educational presentations and well-illustrated publications.
Institutional support

Children’s Hospital-San Diego was recently voted (Child Magazine) as one of the top ten children’s hospitals in the U.S.A. with special credit given to the strength of the orthopedic department. The focus of excellence in pediatric orthopedics at Children’s Hospital, San Diego, depends not only on its association with a great university orthopedic training program (UCSD) but also on strong support from Children’s Hospital administration. Blair Sadler, President and Chief Executive Officer, as well as his many support staff, including Meg Norton, Paul Van Dolah, Rhonda Sparr-Perkins, and Jane Weisenberg, provide administrative leadership for orthopedics. Insightful and progressive support for both clinical care and research by the hospital has been instrumental in our success. Also, the Children’s Hospital facility is a unique and beautiful hospital, which allows us to provide efficient, high-quality care for our many patients.

Summary

The Children’s Hospital, San Diego – University of California, San Diego, Pediatric Orthopedic Training Program continues to be internationally recognized for the quality of its research, teaching, and patient care in pediatric orthopedics and scoliosis. We hope that the enclosed material will help you to better understand our program.

Dennis R. Wenger, M.D., Director
Pediatric Orthopedic Training Program
Children’s Hospital, San Diego
Clinical Professor of Orthopedic Surgery
University of California, San Diego

Scott J. Mubarak, M.D., Director
Pediatric Orthopedic Clinical Program
Children’s Hospital, San Diego
Clinical Professor of Orthopedic Surgery
University of California, San Diego

Graduation Time!
Orthopedic Training Program

Resident Training Program

Our residency training program includes residents rotating from the UCSD Program, the San Diego Naval Regional Medical Center Training Program, and the Wilford Hall Air Force Training Program (San Antonio). The Wilford Hall rotation began in 1999 and has provided outstanding orthopedic residents who are keen to experience the type of clinical teaching and research opportunities that Children’s Hospital, San Diego, can provide. This new program has added to our overall productivity. In addition, an orthopedic research resident from UCSD (PGY-2) regularly rotates to Children’s Hospital for a full year of research in our Motion Analysis and Biomechanics facilities. The continued growth in our Emergency Department visits and our elective pediatric orthopedic activities, provides a tremendous volume of pediatric orthopedic conditions that supports our training program, both for orthopedic residents and fellows. We believe that our residents are exposed to the ideal balance of cases with a special focus on the types of problems that they would manage in a general orthopedic practice.

The Emergency Department at Children’s Hospital - San Diego provides the stage for our outstanding pediatric orthopedic trauma team to perform. Using conscious sedation and Flouroscan™ imaging, children’s fractures are reduced expertly and efficiently.
Our hospital outpatient clinic and office clinic experience more than 34,000 annual visits. Busy team members include surgeons, nurse practitioners, nurses, physical therapists, orthopedic fellows, and residents as well as medical students and orthopedic technicians.

 Resident education occurs in all areas of the hospital including the orthopedic inpatient area (entire floor dedicated to the orthopedic service), the operating room, and orthopedic outpatient clinic (above).

Instruction in physical examination continues to be important in the pediatric orthopedic curriculum. Pediatric orthopedics is said by some to be the last truly "general orthopedic" rotation (requires musculoskeletal assessment of the entire body).

The Children’s Hospital orthopedic technicians provide a critical role in allowing us to see 34,000 outpatients annually.

Resident training includes extensive instruction in casting techniques, both for fracture care as well as for post-operative cast immobilization.
Fellowship in Pediatric Orthopedics and Scoliosis

The Pediatric Orthopedic and Scoliosis Fellowship Program continues to train outstanding candidates from throughout North America.

Fellows who have completed their training program over the last two years have accepted the following positions:

**1998-99 Fellows**

Dr. Michael J. Elliott – (Graduate of Bethesda Naval Hospital Orthopedic Program) – Full-time pediatric orthopedic staff – Norfolk Naval Hospital Training Program, Norfolk, Virginia.

Dr. Gregory V. Hahn – (Graduate of University of Pennsylvania Orthopedic Program, Philadelphia) – Pediatric Orthopedic Group, St. Petersburg, Florida.

Dr. Francois D. Lalonde – (Graduate of University of Ottawa Orthopedic Program, Ottawa, Ontario, Canada) – Full-time pediatric orthopedic staff, Children’s Hospital, Ottawa/University of Ottawa training program.

Dr. Laura L. Meyers – (Graduate of Vanderbilt University Orthopedic Program, Nashville) – Pediatric Orthopedic Group, St. Louis, Missouri.
1999 - 2000:

Dr. Afshin Aminian – (Graduate of Northwestern University Orthopedic Training Program) Pediatric Orthopedic Group, Morristown (New Jersey)

Dr. David Scher – (Graduate of Hospital for Joint Diseases Training Program) – Full-time pediatric orthopedic staff – New York University - Hospital for Joint Diseases Combined Orthopedic Training Program (New York City)

Dr. Ernest Sink – (Graduate of University of Texas, Southwestern Orthopedic Training Program) – Full-time pediatric orthopedic staff Children’s Hospital, Denver/University of Colorado, Orthopedic Training Program (Denver)

1999-2000 Fellows

Dr. Sink            Dr. Scher               Dr. Aminian

We have hosted multiple international fellows over the last several years, most recently Dr. Eduardo Segal (Argentina) and Dr. Alessandro Melanda (Brazil). Many international visitors electively visit and enrich our program, sharing orthopedic and cultural experiences.
Dr. Wenger remains active as Director of the Orthopedic Training Program and also as a very busy clinician and surgeon, directing the Hip Disorder Service at Children’s Hospital. His major research interests include spine and hip disorders in children. Over the last two years he has continued his national and international lecture schedule, including conferences in Argentina, Germany, Austria, England, India, Canada, and Mexico. The lecture trip to Bombay (Mumbai), India for the POSI (Pediatric Orthopedic Society of India) meeting, where both he and Dr. Sutherland were on the faculty, was the highlight of the 2000 academic year.

Scott J. Mubarak, M.D.

• Education:
  - Ripon College, Wisconsin
  - University of Wisconsin Medical School
• Internship:
  - Mercy Hospital, San Diego
• Orthopedic Residency:
  - University of California at San Diego Medical Center
• Pediatric Orthopedic Fellowship: The Hospital for Sick Children, Toronto

• Director, Orthopedic Clinical Training Program, Children’s Hospital, San Diego
• Clinical Professor, Department of Orthopedics, University of California, San Diego

• Specialties: Hip dislocation • Scoliosis • Fractures • Clubfeet
  Joint infections • Muscular dystrophy
  Compartment syndromes

Dr. Mubarak serves as Director of the Pediatric Orthopedic Clinical Program and provides immense energy for the organization and development of one of North America’s largest clinical and surgical services in pediatric orthopedics. In addition to these skills, he remains active in teaching and research and travels extensively to lecture (Australia, Germany, Austria, Argentina, etc). He also serves on the organizing committee for the international SICOT conference which will hold its triennial international congress in San Diego in 2002.
Henry G. Chambers, M.D.

- **Education:**
  - University of Colorado, Summa cum laude
  - Tulane University School of Medicine
  - Orthopedic Residency: Brooke Army Medical Center
  - Pediatric Orthopedic Fellowship: Children’s Hospital/University of California, San Diego

- Chairman - Orthopedics - Medical Staff Orthopedic Department, Children’s Hospital, San Diego
- Associate Clinical Professor, Department of Orthopedics, University of California, San Diego
- Medical Director, Motion Analysis Laboratory
- **Specialties:** Sports Medicine • Trauma • Cerebral Palsy
  - Gait analysis • Fractures

Dr. Chambers serves as Director of the Motion Analysis Laboratory at Children’s Hospital as well as Director of our Sports Medicine Program. He is extensively involved in research and teaching, particularly related to cerebral palsy and the use of botulinum injections for childhood neurologic conditions. He was recently elected treasurer of the AACPDM, named chair of the POSNA Motion Analysis Committee, and was named to the NIH Study Group on Hypertonic Conditions in Childhood.

Peter O. Newton, M.D.

- **Education:**
  - University of California, San Diego, Bioengineering
  - University of Texas, Southwestern Medical School
  - Surgical Internship and Orthopedic Residency: University of California, San Diego
  - Pediatric Orthopedic Fellowship: Texas Scottish Rite Hospital for Children, Dallas

- Staff Pediatric Orthopedic Surgeon, Children’s Hospital, San Diego
- Assistant Clinical Professor, Department of Orthopedics, University of California, San Diego
- **Specialties:**
  - Scoliosis • Lower extremity problems
  - Limb length inequality • Fractures

Dr. Newton serves as Director of the Scoliosis Service and of our Research Division. He has organized a state-of-the-art Biomechanics Laboratory and also does extensive biological implant studies in the UCSD facilities. In addition, he was recently named a Skagg’s Scholar as part of the Scripps Clinic – Children’s Hospital combined research effort. Dr. Newton’s research work on fiber-optic guided correction of scoliosis has led to many breakthroughs including anterior thoracic instrumentation via a thorascopic approach. As a result, Children’s Hospital-San Diego is one of the world’s leading centers for advanced methods of scoliosis correction in childhood, adolescence, and early adulthood.
C. Douglas Wallace, M.D.

• **Education:**
  - University of California, San Diego
  - University of Michigan Medical School
  - General Surgery Internship, University of California, San Diego
  - Orthopedic Residency: University of California, San Diego
  - Pediatric Orthopedic Fellowship: Children’s Hospital/University of California, San Diego
• **Staff:** Pediatric Orthopedic Surgeon, Children’s Hospital, San Diego
• **Specialties:** Hand disorders • Fractures • Cerebral palsy
  - Clubfeet • Spina bifida • Hip disorders

Dr. Wallace serves as Director of the Hand and Upper Extremity Service at Children’s Hospital, as well as recently being appointed Director of the Orthopedic Trauma Program at Children’s Hospital. The latter is an important key to our hospital’s function, given that our Level I Trauma Center for Children is one of the largest in North America. Dr. Wallace is an excellent teacher and mentor and is actively involved in research related to upper extremity structure and function.

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**Nurse Practitioners**

Mary Lou Scott, PNP

Phillip Stearns, PNP

Our recently developed nurse practitioner program has greatly added to our clinical capacity and expertise in the outpatient clinics at Children’s Hospital.
Children’s Orthopedic Surgery Research Program

The Orthopedic Surgery Department of Children’s Hospital is currently pursuing research endeavors through four main centers, each with a specific focus. Led by the Chief of Orthopedic Research, Dr. Peter Newton, these centers have experienced considerable growth and show great potential for further expansion.

**Center for Orthopedic Outcomes:**
Childhood hip disorders, neuromuscular disorders, orthopedic trauma and sports medicine are a few of the interests for which retrospective and prospective outcome studies are currently underway. Each of the attendings in the Orthopedic Surgery department at Children’s Hospital pursue outcomes research in their respective specialty areas. Treatment methods and clinical procedures are critically reviewed, answering questions regarding efficacy and success. Examples of current research include:

- **Epidemiology and Treatment Outcomes of Pediatric Fractures** – To further understand the causes of pediatric fractures and improve treatment.
- **Bilateral Pelvic and Femoral Surgeries in Cerebral Palsy:** Comparison of Staged versus Same-Day Operations – (a retrospective review to determine clinical and financial differences)
- **The Effect of Pavlik Harness Treatment on Mild Hip Dysplasia** – (Analysis of outcomes in mild hip dysplasia comparing those rigorously treated Pavlik Harness with patients who were simply monitored)

**Orthopedic Biomechanics Research Center (OBRC):**
The focus of the OBRC is to complement and advance clinical decision making and understanding of orthopedic problems by using sophisticated analytical techniques incorporated from many different disciplines. The research spans orthopedic sub-specialties that include trauma, spinal deformity, congenital problems of the hip, and sports medicine. A material testing machine is utilized to apply loads to orthopedic implants and tissues. The OBRC collaborates with UCSD, SDSU and orthopedic industry companies. Pediatric orthopedic surgeons and biomechanical engineers function to design and complete all phases of each study. Examples of current research projects include:

- **Fixation of Complex Femoral Fractures Using Different Materials and Insertion Sites** – (to determine optimal material and surgical technique for fixation of both transverse and comminuted femur fractures)
- **Biomechanical Differences Between Several Pelvic Osteotomies: Analysis of Motion and Stability** – (to critically evaluate current pelvic osteotomy surgeries)
**Center for Spinal Deformities:**
This center pulls from clinical, biomechanical, and animal research to further investigate the understanding of scoliosis and augment the diagnosis and correction of spinal deformities. Through animal and cadaveric studies, questions regarding instrumentation, stability, and growth modulation are answered. Clinical studies focus on etiology, non-operative treatment methods, and surgical method outcomes, emphasizing minimally invasive approaches. Examples of current research projects include:

• Biomechanical Evaluation of Anterior Spinal Instrumentation – (to determine which combination of vertebral rods and inner body cages provides the greatest stability during physiologic testing)
• Use of an Asymmetrical Anterior Body Tether for Spinal Growth Modulation in an Immature Bovine Model – (to characterize the effects of vertebral body wedging and disc compression on growth and biomechanics)
• Surgical Correction of Scoliosis – (a prospective clinical study analyzing the outcomes of scoliosis surgery performed anterior open, posterior open, or anterior thoracoscopic)

**Motion Analysis Laboratory:**
This center functions in both clinical and research arenas. The Laboratory staff includes pediatric orthopedic surgeons led by Dr. Henry Chambers, biomechanical engineers, research physical therapists, kinesiologists, and administrative support. The aim of the lab is to restore, sustain and enhance the health and developmental potential of children through clinical and research studies. State of the art computer technology is used to obtain a detailed report of the functional mobility of a clinical patient, which assists in surgical or rehabilitation decision making. The addition of a 240 Hz 8-camera motion measurement system facilitates research in sports and biomechanical motion analyses. Examples of current research include:

• The Effect of Dilution on the Efficacy of Botulinum Toxin A in Ambulatory Spastic Cerebral Palsy Population- (to determine whether increasing the dilution provides improvement in symptomology and functionality)
• Logic Controlled Electromechanical Free Knee Orthosis Combined with Isocentric Reciprocal Gait Orthosis – Subcontractual agreement with Mayo Clinic, Rochester, (to develop foot switch hardware to incorporate in a free-knee orthosis. The lab is used to test the function of the orthosis under conditions of both standard lock-knee and free-knee-unlocked orthoses)
Our program often receives recognition in the lay press, as well as in hospital, university, and trade publications.

Children’s Hospital - San Diego was listed in the Feb. 2001 issue of Child Magazine as one of the ten best Children’s Hospitals in the country. The Orthopedic Department’s excellence was listed as one of the important programs at Children’s Hospital.
Chancellor’s Report

Message from the Chancellor

UCSD Chancellor’s Report / Winter 2001

Chancellor Robert C. Dynes

Regents approve efforts to unite UCSD Pediatrics and Children’s Hospital

Plans to consolidate children’s health services in San Diego to create a world-class center for pediatric care, research and teaching have now entered the final phase of discussion between physicians and administrators from UCSD and Children’s Hospital and Health Center. In November, the University of California Board of Regents endorsed a staff affiliation agreement to integrate children’s health services in a program based at Children’s Hospital.

The goal of this alliance is to create the shortest bridge possible between medical research discoveries and the child’s bedside, helping to ensure that San Diego’s children get the best care available. The model being evaluated integrates programs, including research and teaching activities, with relocation of most of UCSD Medical Center’s pediatric inpatient care programs to Children’s Hospital and Health Center. UCSD Medical Center will continue to operate its neonatal intensive care unit and newborn nursery; and also will continue to care for pediatric burn patients in its Regional Burn Center. In addition, outpatient primary care services will remain in Hillcrest to facilitate access.

Advancing Expertise in Spinal Surgery

Thoracoscopic Approach for the Treatment of Idiopathic Scoliosis

Peter O. Newton, MD
San Diego, CA, USA
In pediatric healthcare, staying on the cutting edge of technology is more than a matter of convenience. It is a matter of saving the lives of children.

This is really what research and teaching are all about — and why they are the current focus of the Children’s Inspiration Campaign.

As we seek new ways to treat and prevent disease, we are saving lives. And as we help to train the next generation of pediatric physicians, we ensure a legacy of...
OCTOBER 11, 2000

Walid K. Yassin, MD
Children's Hospital and Health Center
3030 Children's Way Suite 410
San Diego, CA 92123

Dear Dr. Yassin:

The review panel of the National Orthopaedic Surgery Fellows Foundation (NOSFF) has completed review of your research grant application and we are pleased to inform you that you have been selected as one of eight to receive awards this year. We wish to commend you on the preparation of your proposal.

A Comparison of the Fixation Stability of the Bernese Periacetabular Osteotomy of Ganz with Tonnis' Modification of Steel's Triple Innominate Osteotomy

This Issue

1 Choices for Surgical Correction of a Right Thoracic Curve in an Adolescent
   Dennis R. Wenger, MD
   San Diego, CA

Choices for Surgical Correction of a Right Thoracic Curve in an Adolescent

Introduction
Dennis R. Wenger, MD
San Diego, CA
Chambers


Chambers, HG: Research in Cerebral Palsy. Exceptional Parent. 29:50-51, July 1999


Michelle Marks, E Quigley, M Wyatt, and H Chambers: Walking Velocity and Functional Ambulation Level as Predictors of Rectus Femoris Transfer Outcomes. Gait and Posture. 11, April 2000


**Mubarak**


Newton


**Sutherland**


**Wallace**


**Wenger**


Wenger, Dennis R.; Hahn Gregory V. Triple Innominate Osteotomy for Hip Dysplasia: Lessons Learned from Three-Dimensional Computed tomography (3D-CT) Studies. Mapfre Medicina (Madrid), Vol. 10 (supl. 1)205-209.


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Dodgin DA, De Swart RJ, Stefko RM, Wenger DR, Ko JY. Distal Tibial/Fibular Derotational Osteotomy for Correction of Tibial Torsion: Review of Technique and Results in 63 Cases. JPO, 18(1) 95-101 Jan-Feb 1998

Akbarnia


Chambers


Mubarak


Newton


Wallace


Wenger


Akbarnia


Newton


Wallace


Wenger


The annual visiting professor program at children’s hospital - San Diego brings orthopedic surgeons with an international reputation to exchange ideas with our staff, fellows, residents, and medical students.

**Note:** Our April 2001 Visiting Professor will be Jean Dubousset, Professor of Orthopedic Surgery, University Rene Descartes, Paris.
Chambers

Use of Botulinum Toxin in the Management of the Near Drowning Patient
American Academy for Cerebral Palsy and Developmental Medicine
San Antonio, TX September 1998  (Nominated for Richmond Award)

Occupational Therapy and the Upper Extremity in Cerebral Palsy
Occupational Therapy Association of California
San Diego, CA October 1998

Les Problemes Orthopediques chez les Handicapes Cerebraux
College de Medicine et de Pharmacie
Port-au-Prince, Haiti January 1999

Botulinum Toxin: Action and Indications for Use in Spasticity Management.
American Academy of Orthopedic Surgeons
National Association of Orthopedic Nurses
Anaheim, CA February 1999

Intramedullary Fixation for Diaphyseal Radius and Ulna Fractures
Western Orthopedic Association
Coronado, CA, August 1999

The Role of Rectus Femoris Transfer in Cerebral Palsy
Denver Children’s Hospital
Denver, CO, August 1999

The Treatment of Spasticity
National Developmental Disabilities Conference
San Diego, CA  September 1999

Fractures as Viewed by Different Clinicians: Radiology, Orthopedics, and Pediatrics
And Social Work (with Wendy Wright, MD, Mel Senac, MD, and Andrea MacKay, LSW)
San Diego Conference on Responding to Child Maltreatment
San Diego, CA  January 2000

The Natural History of Equinus in Cerebral Palsy
Discussant
Equinus Ankle in Cerebral Palsy Workshop
American Academy for Cerebral Palsy and Developmental Medicine
United Cerebral Palsy Research and Education Foundation
Phoenix, AZ February 2000

Extraarticular Drilling of Osteochondritis Dissecans Lesion of the Knee in Children and Adolescents
Pediatric Orthopedic Society of North America
Vancouver, British Columbia May 2000

Percutaneous Lavage of the Septic Hip in Children
Pediatric Orthopedic Society of North America
Vancouver, British Columbia May 2000
Crouch Gait and “Apparent Equinus” in Cerebral Palsy
International Symposium on the Use of Botulinum Toxin in Cerebral Palsy
Lake Maggiore, Italy June 2000

Pharmacologic and Surgical Treatment of Congenital Torticollis
Pediatric Skull Deformities and Congenital Torticollis: How to Avoid Errors in Diagnosis and Treatment-An update for Pediatricians
San Diego, California August 2000

College de Medecine et de Pharmacie
   Port-au-Prince, Haiti
   January 1999

Kaye Wilkins Pediatric Orthopedic Visiting Professor
   University of Texas at San Antonio
   Christus Santa Rosa Hospital
   Wilford Hall Air Force Medical Center
   San Antonio, TX
   April 2000

V∞ Congreso Internacional Del Capítulo Argentino Neuroortopedia
   Buenos Aires, Argentina
   September 2000

Canadian Spasticity Advisory Board
   Toronto, Ontario, Canada
   September 2000

Richard Lindseth Visiting Professor in Pediatric Orthopedics
   University of Indiana
   Indianapolis, IN
   September 2000

CONFERENCES HOSTED - Chambers

Pediatric and Adolescent Sports Medicine
Page 34
San Diego, California March 1999
Course Co-Director (with Mark Bracker, MD)
Brain Injuries in Children
Knee Ligament Injuries
Torsional Deformities of the Lower Extremities
Flatfeet in Children
Sports in Children with Disabilities

Pediatric and Adolescent Sports Medicine
San Diego, California February 2000
Course Co-Director (with Mark Bracker, MD)
Knee Ligament Injuries in Children
Sports in Children with Disabilities

Developmental Disabilities: A Primer for Primary Care Providers
San Diego, California July 2000
Course Director
What are the Developmental Disabilities?
Introduction to the NCMRR and WHO Models of Disability
Cerebral Palsy
Spasticity: Introduction and Management
Treatment of Spasticity: Oral Medication, Botulinum Toxin, Intrathecal Baclofen, and Rhizotomy
The Adult with a Disability- Medical, Social and Economic Concerns

Management of Spasticity in Children with Cerebral Palsy: A integrated Approach.
San Diego, California August 2000
Course Director with Mark Gormley, MD
Examination of the Child with CP
Lower Extremity Surgery in CP

Interpretation of Motion Analysis Data
San Diego, CA October 2000
Pattern Recognition at the Ankle
Clinical Applications of Kinematic Data
The Future of Gait Analysis
Laboratory Session Instructor

INSTRUCTIONAL COURSE FACULTY - Chambers
American Academy For Cerebral Palsy and Developmental Medicine
San Antonio, TX September 1998
Instructional Courses
Functional Problems and Treatment of the Hip in Patients with Cerebral Palsy
Functional Problems and Treatment of the Knee in Patients with Cerebral Palsy

Our specialized Botox clinic contributes to state-of-the-art care for cerebral palsy patients.
Committees
  Committee on Treatment Outcome-Chairman
  Committee on International Affairs

Interpretation of Motion Analysis Data
  San Diego, CA  September 1998
  Administration and Funding of Motion Analysis Lab
  Outcome Research in Motion Analysis Laboratory  Workshop Instructor

American Academy of Pediatrics
  San Francisco, CA  October 1998
  Disabilities and the Child Athlete
  Cerebral Palsy: New Developments for Optimal Management
  Los Angeles, CA  March 1999
  Surgical Treatment of Cerebral Palsy
  Spasticity Workshops

American Academy for Cerebral Palsy and Developmental Medicine
  Washington, DC  September 1999
  Instructional Courses
  Functional Problems and Treatment of the Ankle in Patients with Cerebral Palsy
  Functional Problems and Treatment of the Knee in Patients with Cerebral Palsy
  Walking into Adulthood- Adults with Cerebral Palsy
  Breakfast with the Experts: Crouch Gait and Single Stage Surgery
  Committees
  Committee on Treatment Outcomes-Chairman

Mubarak

Mubarak, SJ: Fractures About the Knee. Visiting Professor. Hospital de Especialidades Centro Medico Nacional de Occidente Division de Ortopedia meeting, Puerto Vallarta, Mexico, August 1, 1998.


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Mubarak, SJ: Diagnosis and Management of Acute Compartment Syndrome. Visiting Professor. Southern Illinois University School of Medicine, Springfield, IL, September 10, 1999.


The orthopedic technician team provides not just cast and equipment expertise but in addition, excellence in patient care management and patient education.


Visiting Professor, AACD Rehabilitation Hospital, Sao Paulo, Brazil, June 22 – 25, 1999
Pediatric Spinal Thoracoscopy, Indications and Technique
Thoracoscopic Anterior Spinal Release, Video demonstration
Spinal Thoracoscopy Learning Curve and Outcomes
Endoscopic Spinal Surgery Below the Diaphragm
The Utility of 3D CT Scanning in Congenital Scoliosis
Early Conversion to Oral Antibiotics in Pediatric Septic Arthritis

Visiting Professor, Italian Hospital, Buenos Aires, Argentina, June 28 – July 1, 1999
Pediatric Spinal Thoracoscopy, Indications and Technique
Thoracoscopic Anterior Spinal Release, Video demonstration
Spinal Thoracoscopy Learning Curve and Outcomes
Argentine Orthopedic and Traumatology Association, VATS in Adolescent Idiopathic Scoliosis
Experimental Lab VATS Demonstration


Visiting Professor, 30th Anniversary Course of the Scoliosis Center of the Italian Hospital of Buenos Aires: Advances in the treatment of deformities of the vertebral column. Buenos Aires, Argentina, June 29 – 30, 2000

Presentation: Experimental Studies in Thoracoscopic Anterior Fusion and Instrumentation
Panel Discussion: Scoliosis in Children and Adults
Moderator: Congenital Scoliosis and Kyphosis
Presentation: Clinical Experience of Thoracoscopic Anterior Scoliosis Correction
Panel Discussion Scheuermann’s, Spondylolysis, Spondylolisthesis


Sutherland

"Instrumented Motion Analysis: A Clinical Tool

"Cerebral Palsy: The Dynamics of Diagnosis and Treatment" Discovery International, Boston, MA February 1998.

"The History of Modern Gait Analysis"
David H. Sutherland Visiting Professorship San Diego, CA April 1998.

"Double-Blind Study of Effects on Gait of Injections into the Gastrocnemius Muscle in Cerebral Palsy Patients".

1999
International Society of Biomechanics XVII Congress
Objective measurements in clinical decisions for children with cerebral palsy. Calgary, Canada August 8-13, 1999

2000
“The Treatment of Cerebral Palsy with Botulinum Toxin (BOTOX) Type A”
6th Annual Conference of Paediatric Orthopaedics
Delhi, India, February 29 and March 2, 2000

Paediatric Orthopaedic Society of India (POSI)
Bombay, India, March 5 – 8, 2000

Wallace:

Myelomeningocele (Spina Bifida); Developmental Disabilities, UCSD School of Medicine/Children’s Hospital and Health Center, La Jolla, Ca. 7/27/00
Fractures of the Lower Extremities, Scripps Mercy Hospital Pediatric Grand Rounds, San Diego, Ca. 7/19/00

Managing Spasticity in Cerebral Palsy with Review of Continuous Intrathecal Medication Background, San Diego, Ca. 6/16/00

Osteomyelitis and Joint Sepsis Orthopaedic resident’s teaching conference, San Diego, Ca.6/23/00

Congenital Upper Extremity Erb’s Palsy, Sprengels and Torticollis, Scripps Mercy Hospital Pediatric Grand Rounds, San Diego, Ca. 5/17/00
Managing Toeing In/Metatarsus Varus and Clubfoot Orthopaedic resident’s teaching conference, San Diego, Ca. 5/5/00

Osteomyelitis and Joint Sepsus Orthopaedic resident’s teaching conference, San Diego, Ca. 3/10/00

Managing Toeing In/Metatarsus Varus and Clubfoot Orthopaedic resident’s teaching conference, San Diego, Ca. 1/7/00

Pediatric Orthopedics in the Neonatal Period, Pediatric Grand Rounds, Scripps/Mercy Hospital, San Diego Ca. 10/21/99

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Wenger

1998
“Technique for Triple Innominate Osteotomy Based on 3-D CT Analysis of Complications”
POSNA Annual Meeting
Cleveland, OH, May 1998

“Evaluation and Classifications of Hip Dysplasia Using Three Dimensional CT Scans (3D-C)”
“Early Surgical Correction of Residual Dysplasia: The San Diego Children’s Hospital Approach”
Orthopedica Belgica and Belgian Association of Paediatric Orthopedic (BAPO)
Lourain la Neuva, Belgium, May 1998

“Osteotomy for AVN: The Role of Lesion Size, Technical Tips”
“Trap Door Procedure”
“Planning Osteotomies Based on 3-D Imaging”
“Other Options for Acetabular Reconstruction”
“Partial Physeal Closure: Prevention, Assessment and Treatment”
The International Pediatric Orthopedic Symposium
The Nemours Children’s Clinics and The Alfred duPont Hospital for Children
of the Nemours Foundation
Orlando, FL, May 1998
“Flat Foot: Current Diagnosis and Treatment”
“Developmental dysplasia of the Hip: Treatment in the Older Child”
“Management of Neuromuscular Scoliosis”
“Management of Hip Problems in Cerebral Palsy”
Sociedad Argentina de Ortopedia Y Traumatologia Infantil
Buenos Aires, Argentina, October 5 – 7, 1998
“Human Hip Dysplasia”
“Dysplasia and Developmental Dislocation of the Hip: Techniques of Open Reduction”
“The Hip in Cerebral Palsy”
“Perthes Disease: The Current Status”
“Perthes Disease: Evolution of Other Current Containment Strategies”
International Paediatric Orthopedic Hip Surgery Course
Zurich, Switzerland, October 26 – 27, 1998

“Surgical Treatment – Perthes Disease (Other Containment Strategies)”
“Delayed Onset Paraplegia Following Scoliosis Surgery”
IPOTT
Moderator of Preliminary Scientific Program
“The Evolution of Surgical Management for Thoracic Scoliosis”  
Management of Intercorporeal Disorders, GICD – USA  
Chicago, IL, December 1998

“Patient Selection – Indications for Anterior Surgery in Pediatric Scoliosis”  
“Indications for Combined Anterior and Posterior Surgery”  
Anterior Treatment of Scoliosis, GICD – USA  
Chicago, IL, December 1998

1999
“Legg-Calve-Perthes Disease: Current Concepts”  
“Developmental Hip Dysplasia and Dislocation”  
American Academy of Orthopedic Surgeons Instructional Course Lecture  
Annual Meeting  
Anaheim, CA, February 1999

“Managed Care Has Lead to a Decreased Quality of Orthopedic Care for Most Children”  
Special Debate (Pro: The Rev. Wilton Bunch, MD; Con: Dennis R. Wenger, MD)  
Pediatric Orthopedic Society of North America  
Specialty Day  
Anaheim, CA, February 1999

“Surgical Correction of Adolescent Scoliosis”  
The Scoliosis Association, Inc. National Organization  
San Diego Spinal Conference  
San Diego, CA, February 1999

“Avascular Necrosis in Slipped Capital Femoral Epiphysis – Analysis and Treatment Concepts”  
“The Trapdoor Procedure for Avascular Necrosis of the Hip in Adolescents”  
“Hip Dysplasia: Acetabular Analysis Using Three-Dimensional Computed Tomography Studies”  
“Triple Innominate Osteotomy for Hip Dysplasia: Lessons Learned from Three-Dimensional Computed Tomography (3D-CT) Studies”  
Fundacion Mapfre Medicina, Chair: Dr. Javier Albaniana  
Madrid, Spain, March 1999

“Hip Dysplasia in Childhood”  
“3-D CT Analysis of Hip Dysplasia”  
“Legg-Perthes Disease – Current Concepts”  
Children’s Hospital Medical Center – Cincinnati  
Annual Spring Visiting Professor  
Cincinnati, Ohio, April 22-24, 1999

“Acetabular Rotation in the Older Child: 3-D CT Analysis of the Triple Innominate Osteotomy”  
The Salter Society Annual Meeting  
The Hospital for Sick Children, Division of Orthopedic Surgery  
Toronto, Canada, May 1999

“Intramedullary Pins and Rods: Indications and Complications”  
“Development Dysplasia of the Hip: Diagnosis and Treatment Strategies”  
Page 44
“Angular Deformities of the Lower Limbs in Children: Treatment Strategies”
Philippine Orthopedic Association
Golden Anniversary Congress
Committee on Scientific Programme
Manila, Philippines, November 1999

“Analysis of Shelf Acetabuloplasty Using 3-D CT Methods”
International Pediatric Orthopedic Think Tank Meeting
Montreal, Canada
October 13-16, 1999

2000
“Flat Feet and Torsional Deformities”
Pediatric & Adolescent Sports Medicine Conference
San Diego, CA
February 17-19, 2000

“Lateral Column Lengthening for the Pediatric Flat Foot”
“The San Diego CP Hip Osteotomy”
“The Ganz Periacetabular Osteotomy”
Pediatric Orthopedic Society of North America
Orlando, Florida
March 18, 2000

“Comparison of Anterior Versus Posterior Instrumentation for Correction of Thoracic Adolescent Idiopathic Scoliosis: Analysis by an Objective Radiographic Scoring System”
Vancouver, WA
May 01-03, 2000

“Management of Elbow Fractures in Children”
“Management of the Unstable Hip in Cerebral Palsy”
“Scoliosis Treatment in Cerebral Palsy”
“Idiopathic Scoliosis – Current Evaluation and Management”
“Surgical Treatment of Hip Dysplasia in Children”
“Complications of Pelvic Osteotomy”
“Triple Innominate Osteotomy in Hip Dysplasia”
“San Diego Hip Osteotomy for Cerebral Palsy”
6th Annual Conference of Paediatric Orthopedic Society of India
Mumbai, India
March 05-08, 2000

“Severe Progression of Flatfoot”
“Deformity Following Healing of Tibial Shaft Fracture in Mild Valgus”
International Pediatric Orthopedic Think Tank
Stuttgart, Germany
September 21 – 23, 2000

“Legg-Calve-Perthes Disease”
“Treatment by Triple Innominate Osteotomy – The Child’s Hip (Symposium)
University Clinic – Vienna Austria (Vienna Kvankenhaus)
September 25, 2000

“Legg-Calve-Perthes –Current Concepts”
“Diagnosis and Treatment of Idiopathic Scoliosis”
“DDC – Treatment in the Older Child”
“Management of Common Angular and Rotatory Abnormalities of Lower Extremities”
SMOP 2000
Guanajuato, Mexico
November 02-04, 2000

Visiting Professorships and Lectures
Visiting Professor
20th Brandon Carrell Visiting Professorship – Texas Scottish Rite Hospital for Children
Texas Scottish Rite Hospital for Children, Dallas, TX, April 1998
“The Orthopedic Career - Managed Care for your Life”
“Treating Scoliosis in Adolescents - A Generation of Progress”
“Analysis and Treatment of Residual Hip Dysplasia in Children - The San Diego Children’s Hospital Approach”

Visiting Professor – Kernan Children's Hospital and the University of Maryland Hospitals
Baltimore, MD, June 1998
“The Surgical Treatment of Adolescent Idiopathic Scoliosis: A Generation of Change”
“The Management of Residual Hip Dysplasia in Childhood and Adolescence - The San Diego Children’s Hospital Approach”

Visiting Professor
First International Course of Pediatric Orthopedic Hip Surgery
Galgrist Clinic – University of Zurich
Zurich, Switzerland, October 26-27, 1998
“Human Hip Dysplasia: Introductory Lecture”
“Indications; and Techniques for Acetabuloplasties”
“Indications and Technical Details”
“Dysplasia and Developmental Dislocation of the Hip – Technique of Open Reduction”
“The Hip in Cerebral Palsy – An Introduction to the Problem
“Perthes Disease”
“Evolution of Current Containment Strategies”

Visiting Professor – Cincinnati Children's Hospital
Pediatric Hip Symposium
Cincinnati, OH, April 1999
“Residual Hip Dysplasia in childhood – Early vs. Late Treatment”
“Legg Perthes Disease: Current Concepts”
Page 46
“Human Hip Dysplasia – The Current Status”

2000
Eugene Rogala Visiting Professor in Pediatric Orthopedic
Shriners Hospital for Children – Canada, Montreal Children’s Hospital
Department of Pediatric Orthopedic Surgery
Montreal (Quebec) Canada, November 16-17, 2000
“Legg Perthes Disease – Evolution to Triple Innominate
Osteotomy”
“Developmental Dysplasia of the Hip, Treatment in the Older
Child”
“Surgical Treatment of Idiopathic Scoliosis – Evolution to
Current Methods”
“Managing Common Angular and Rotary Abnormalities of
Lower Extremities”

Akbarnia

Akbarnia, B.A.: Spinal Instrumentation Without Fusion For The
Treatment Of Progressive Early Onset Scoliosis. Seminar On Anterior And Pediatric Deformity Solutions,
Meeting (Presidential Guest), Sapporo, Japan, October 10, 1998.
Akbarnia, B.A.: New Trends In Surgical Treatment Of Thoracolumlar Spine Fractures. Symposium In Recent
Advances In Surgical Trauma. King Fahd Military Medical Complex, Dhahran, Kingdom Of Saudi Arabia,
Akbarnia, B.A.: Surgical Treatment Of Progressive Early Onset Scoliosis. Seminar On Anterior And Pediatric
Deformity Solutions, San Francisco, California, November 1, 1998.
Akbarnia, B.A.: Instrumentation Without Fusion For The Treatment Of Early Onset Scoliosis. Isola Study
Group, San Diego, California, November 20, 1998.
Akbarnia, B.A.: Interbody Fusion, Principles And Technique. Isola Study Group, San Diego California,
Akbarnia, B.A.: Early Onset Scoliosis: Options Today. Big Time Spine At Lax, Los Angeles, California,
January 9, 1999.
Akbarnia, B.A.: Treatment Of Structural Kyphosis. Big Time Spine At Lax, Los Angeles, California, January
9, 1999.
Akbarnia, B.A.: Femoral Ring Allografts: Comparison To Manufactured Cages. Big Time Spine At Lax, Los
Angeles, California, January 9, 1999.
Akbarnia, B.A.: Pediatric Isola/Isola System. Ski With The Spine Center At Whistler, British Columbia,
Canada, January 17, 1999.
Akbarnia, B.A.: Idiopathic Scoliosis: Literature Review And Surgical Options. Ski With The Spine Center
Symposium At Whistler, British Columbia, Canada, January 17, 1999.
Akbarnia, B.A.: The Role Of Decompression In Spinal Fractures. International Spine Symposium, Nasser
Spine Institute (Via Link), Cairo, Egypt, January 26, 1999.
Akbarnia, B.A.: Back Pain In Children And Adolescents. Instructional Course Lecture, American Academy Of
Akbarnia, B.A.: Infantile, Juvenile And Adolescent Idiopathic Scoliosis. Depuy Acromed International
Meeting, Cleveland, Ohio, February 9, 1999.
Akbarnia, B.A.: The Role Of Decompression In Spinal Trauma. Depuy Acromed
International Meeting, Cleveland, Ohio, February 9, 1999.
Akbarnia, B.A.: Lectures At The 7th International Isola Spinal Instrumentation Workshop. Kansas City, Missouri, October 17-19, 1999:
   Myelodysplasia Spine Deformity
   Early Onset Scoliosis
   Complications Of Interbody Fusion
   Pediatric Spine Trauma
   Role Of Posterior Decompression In Spinal Trauma
Akbarnia, B.A.: Early-Onset Scoliosis. AOA Traveling Fellowship Visit, Scripps Clinic, La Jolla, California, October 25, 1999.

Akbarnia, B.A.: Lectures At Annual Meeting Of Iranian Orthopaedic Association, Tehran, Iran, November 3-6, 1999:
   Back Pain In Children
   Pediatric Spine Fractures
   Treatment Of Early Onset Scoliosis
   Treatment Outcomes Of Idiopathic Scoliosis

Akbarnia B.A.: Lectures At Big Time Spine At Ocean Reef. Ocean Reef, Florida, November 17-20, 1999:
Treatment Of Early Onset Scoliosis
Complications Of Interbody Fusion
Treatment Of Adult Scoliosis

  Early Onset Scoliosis
  Update On Allograft Interbody Fusion
  Spinal Deformity In Myelodysplasia


  Complications Of Lumbar Interbody Arthrodesis With Implants
  Kyphosis In Myelodysplasia


  Paediatric Fractures
  Instrumentation Without Fusion In The Young
  Approaches To Myelodysplasia
  Interbody Fusion… Bone Or Cage?

  Scoliosis Surgery In The Young
  Lumbar Interbody Fusion With Allograft
  Posterolateral Decompression For Spinal Fractures

Akbarnia, B.A.: Lectures At The 7th International Meeting On Advanced Spine Techniques (Imast), Barcelona, Spain, July 6-8, 2000.

  Advances In Posterior Instrumentation Strategies For
  Deformity Correction In Growing Children
  Surgical Treatment Of Progressive Early-Onset Scoliosis.

Walking Velocity and Functional Ambulation Level as Predictors of Rectus Femoris Transfer Outcomes (Michelle Marks, E Quigley, M Wyatt, and H Chambers) Gait and Clinical Movement Analysis Society Rochester, Minnesota April 2000

Wrist Fusion in Cerebral Palsy Pediatric Orthopedic Society of North America Vancouver, British Columbia May 2000


The UCSD resident research rotation year now includes our Biomechanics Laboratory as a widely sought after position.


