2021 Annual Report

Stanford University
School of Medicine
Department of Orthopaedic Surgery
Division of Pediatric Orthopaedics
Steven L. Frick, MD
Professor and Chief
January 1, 2022

Dear Friends and Colleagues,

Time does pass rapidly. I have been at Stanford for five years now, and in this year’s report want to express my gratitude to all who have made those five years possible. The leaders of Stanford Medicine and Stanford Children’s who support our vision, and my fellow faculty and division team members who work every day to help children lead healthy, active, pain-free lives.

The COVID pandemic rages on, but our team has been resilient and impressively productive despite the constraints imposed by the worldwide crisis. Highlights from the past year include:
- Reorganization of our division as a service line, led by Keith Cook and sponsored by Denny Lund, CMO.
- Opening two new clinic locations in Burlingame and Pleasant Hill
- Hiring Molly Meadows, MD to anchor our Pleasant Hill / John Muir Medical Center practice led by Jim Policy MD
- The return of POSNA national meetings with Stanford well represented during the annual meeting in May 2021 and IPOS meeting in December 2021, demonstrating the national relevance of our work
- Continued success of our research program with over 40 peer reviewed publications in 2020 and hiring of Christian Klemt, PhD as our new Research Program Manager
- Record volumes of outpatient clinic visits in past 4 months
- Record number of outpatient surgical cases
- Our division led Stanford Children’s in 2021 in both patient satisfaction scores and access metrics

Once again, we are grateful to have the opportunity every day to help children, and look forward to working with leaders in the School of Medicine and Stanford Children’s Health on continued progress in 2022. Today we did our best, and tomorrow we will do better.

A healthy, happy New Year to all,
Clinical Activities
Operations and Quality Improvement

We began the year under the excellent leadership from our Executive Director Scott Larson, and end the year under the guidance of Keith Cook as both our new Executive Director of the Orthopaedic Service Line for Stanford Children’s and also the leader for Stanford Children’s Rehabilitation operations. We wish Scott and his family well in their next ventures, and we are excited for Keith to lead us to standardization of our space, staff and patient experiences at all of our locations across the Bay Area. He will be supported with excellent data to inform decision-making from business manager Eric Klein, who now also has responsibility for our call center and surgery scheduling operations. We also have promoted Laura Fleischer to Practice Manager, and Madison McSwain to our lead nurse role, joining our other outstanding practice leaders below. Hiroko Kenner joined us this month as our IS Service Line leader also. We have a great leadership team seen below in place now.
The Division of Pediatric Orthopedic Surgery in 2021 consisted of 11 pediatric orthopedic surgeons, 3 primary care sports medicine physicians, and 8 advanced practice providers at 6 locations and 4 hospitals in the Bay Area. Our team provides 24/7/365 coverage of the level one trauma center at Stanford, and also works at John Muir Medical Center in Walnut Creek, California Pacific Medical Center in San Francisco, and Santa Clara Valley Medical Center in San Jose. In addition to 3 sports surgeons and 3 sports medicine physicians, our pediatric sports medicine team includes certified athletic trainers, with relationships with many local high schools and sports clubs as a part of our Young Athletes Academy program. We also benefit from the clinical expertise of adult faculty with pediatric interests from musculoskeletal oncology (Raffi Avedian, Robert Steffner), hand surgery (Amy Ladd, Margaret Cooke, James Chang, Paige Fox), and spine surgery (Serena Hu). Our efficiency, quality and patient satisfaction efforts continued to show improvement. Key metrics for ambulatory clinic throughput reporting improved again this year. For check-in to check-out cycle times, the division has achieved our goal of 83% of visits being 60 minutes or less.
New Burlingame Clinic opened October 2021 – the team celebrates below.

We were proud to lead Stanford Children’s access initiative scores, and patient satisfaction scores this past year.
Outpatient visits year over year and month over month are shown for past 3 years. FY19 was a record year for our division, and in FY 2021 ending Aug 30, 2021 we almost reached that record at over 29,000 visits. In the first 3 months of FY22 we have had record monthly volumes, and currently are on track for a record year of over 37,000 outpatient visits.

Our telehealth program remains strong, with over 10% of our visits virtual or telehealth via zoom. Dr. Gamble was featured in The Pharos journal of
the AOA medical honor society with an article he wrote about orthopaedic telehealth visits.
Overall surgical cases increased to near pre-pandemic levels, and OR minutes at LPCH were at record highs for our division this year.
Dr. Gamble’s OR team celebrates a “5 before 5 pm” day in the LPCH OR.
Spine cases also returned to near pre-pandemic levels.

Total Spine Surgeries* by Fiscal Year

Fiscal Year

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149 is the targeted number of spine cases for FY21 per Vision 2025.
Scholarly Activities 2021

Pediatric Orthopedic Research Program

Our research program and academic presence in the pediatric orthopedic world continued to grow under the leadership of research manager Katie Hastings, MPH and Kevin G. Shea, director of research. Amishi Jobanputra was a great addition to our team, and now Christian Klemt has been hired as our new research manager. Our faculty published 34 peer-reviewed studies in 2021, participated in national orthopaedic meetings presenting original research and lectures, and obtained intramural and extramural grant funding. Our faculty, residents and students presented virtually and in person at a number of meetings this year. You can read in detail about our team’s efforts at http://med.stanford.edu/pedsortho.

In the past five years we have submitted 492 abstracts, presented 223 abstracts, published 167 papers, and have had 12 of 26 grant applications funded. We currently have 90+ active projects across our division.

2021 PEER REVIEWED PUBLICATIONS (34 TOTAL)


34. Tonkovich N, Baskar D, Frick S. The Impact of the Digital Age and Social Media on Connecting the Clubfoot Community. Cureus. Published online July 31, 2021. doi:10.7759/cureus.16780

2021 NATIONAL AND REGIONAL ABSTRACT PRESENTATIONS (48 total)


34. Stavinoha, Randhawa, Tompkins, Ellis, Fabricant, Green, Ganley, Shea. (2021, May) Quantitative Assessment of the Medial Patellofemoral Complex: A Pediatric Cadaveric Study. Poster presentation at the 2021 Annual POSNA Meeting, Dallas, TX.
35. Shea K, ROCK Group. (2021, May) Trans-articular versus Retro-articular Drilling of Stable Osteochondritis Dissecans of the Knee: A Prospective Randomized Controlled Trial by the ROCK Multicenter Study Group. Podium presentation at the 2021 Annual POSNA Meeting, Dallas, TX.
42. Vuong B, Segovia N, Randhawa, Trivedi, Tran, Ganley, Ellis, Wilson, Fabricant, Shea K. (2021, January) Growth of the Pediatric Knee Meniscus: A Cadaveric Study. Podium presentation at the 8th annual meeting of PRiSM (Virtual).

43. Shea, Tompkins, Vuong, Vandenberg, Shea C, Wilson, Green, Ganley, Ellis. (2021, January) Avoiding Popliteal Neuro-vascular Injury During Iliotibial Band ACL Reconstruction. Poster presentation at the 8th annual meeting of PRiSM (Virtual).

44. Meadows, Vuong, Storaci, Tam, Shea. (2021, January) Biomechanical Simulation of Radial Head Subluxation in Cadaveric Pediatric Elbows. Poster presentation at the 8th annual meeting of PRiSM (Virtual).

45. Randhawa, Tran, Segovia, Shea. (2021, January) Epidemiologic Study of the Discoid Meniscus: Investigating Demographic-Based Predictors in Large-Scale Claims Database. Poster presentation at the 8th annual meeting of PRiSM (Virtual).

46. Randhawa, Shea, Stavinoha, Tompkins, Ellis. (2021, January) The Extent of Medial Quadriceps Tendon Femoral Ligament (MQTFL) Patellar and Quadriceps Attachment: A Pediatric Cadaveric Study. Poster presentation at the 8th annual meeting of PRiSM (Virtual).

47. Heyworth, ROCK Group, Shea. (2021, January) Clinical Effectiveness of Trans-Articular Versus Retro-Articular Drilling of Stable Osteochondritis Dissecans of the Knee. Podium presentation at the 8th annual meeting of PRiSM (Virtual).


2021 BOOK CHAPTERS


Special Thanks to Katie Hastings, our terrific research manager. She is off to her next adventure pursuing a PhD from the University of British Columbia. We will miss her but are excited for future collaborations.
Education Activities

Resident Education and Fellowship Program

Our faculty remain committed to educating the next generation of surgeons, with two residents of the Stanford University program on the pediatric rotation at all times throughout the year, as well as consult residents covering the Stanford Pediatric Emergency Room. In addition to Wednesday morning department-wide conferences, residents participate in a Monday morning case presentation conference with the chief, and a journal club led by Dr. Young. Our entire division meets weekly for preoperative-postoperative conference reviews from 9:30 to 11:30 AM each Wednesday.

PGY1s and 2s learn how to properly apply and remove casts in Dr Frick’s annual casting course.
Conferences and meetings continued to be virtual by zoom - below Wednesday OR teams zooming in to case conference.

Dr. Megan Imrie continued in the role of Fellowship Director this academic year. Monte Squiers completed the fellowship in July 2021. In August we welcomed Kirsten Norrell, MD from Kansas City, MO as our 8th pediatric orthopaedic fellow.
Pediatric Orthopaedic Fellowship Graduates

Kali Tileston, MD – Stanford University
Eric Fuller, MD – Lurie Children’s Hospital, Chicago, IL
Michelle Sugi, MD – Private practice, Los Angeles, CA
Sara Van Nortwick, MD – MUSC Children’s Hospital, Charleston, SC
Tyler Stavinoha, MD – Children’s Hospital of San Antonio, TX
Molly Meadows, MD- Stanford University
Monte Squires, MD – musculoskeletal oncology fellow, University of Utah

Dr. Imrie presenting the Squiers Pin Award to Monte at graduation celebration. Monte’s enthusiasm, patient care skills and dedication (to hockey as well as orthopaedics) will be missed.
Dr. Meadows joined us in September to build our new office in Pleasant Hill, start a pediatric fracture program at John Muir Medical Center- WC, and assist Dr Vorhies with peds ortho patients at Santa Clara Valley Medical Center.
Future Directions:

OUR VISION: alleviate pain and improve function in children and adolescents with musculoskeletal conditions
OUR MISSION: to provide every patient with world-class care
GOAL: become the best pediatric program in the Western USA

Expectations:
Commit to excellence.
Do your best today.
Be better tomorrow.

Always Behaviors:

1. Support the Team - Engage
2. Listen intently, actively to your colleagues – Respect
3. Explain yourself clearly – Start with “The Why” – Clarity
4. Assume positive intent from those around you – Trust
5. Align Capabilities, then Define Goals, Expectations, and Prioritize - Focus
6. Achieve Excellence with Follow-through – Results
7. Strive to get better, every day – Learning
8. Treat others well - Kindness

Stanford Children’s Orthopaedics and Sports Medicine Vision
aligns with the vision, mission and goals statements of:

1. Stanford Children’s Health Vision 2025- 1) advancing academic and clinical excellence, 2) expanding our reach, 3) creating a value-based system
2. Stanford Medicine Integrated Strategic Plan- 1) Value Focused, 2) Digitally Driven, 3) Uniquely Stanford
3. Lucile Packard Children’s Hospital Stanford - to nurture both the body and soul of every child with family-centered care.
LOOKING FORWARD – OCTOBER 2022 BLECK DAY

The pandemic cancelled all visiting professorships again in 2021, so in October 2022 we will try again to host welcome Professor Kishore Mulpuri, from the University of British Columbia, as our 2022 Bleck Visiting Professor in Pediatric Orthopaedic Surgery. He is an internationally acclaimed expert in pediatric hip disorders and evidence-based medicine research, recently promoted to chair of orthopaedics at UBC, and elected President of the Canadian Orthopaedic Association.

Prof. Mulpuri teaching during “Top Gun” at IPOS
Final Thoughts and Images
During the pandemic, our team could relate to the struggles of the fictional UK football club AFC Richmond in the popular Ted Lasso comedy series. We choose optimism, and continue to “BELIEVE” that we can make a difference every day in the lives of children—this sustains us in the face of stressful times.

Image above from locker room office of Coach Lasso, Apple TV+, with our new service line leader Keith Cook superimposed.