



Stone
Research
Foundation



ANNUAL REPORT

Summer 2024

Our **vision** is to
accelerate healing and
to treat, prevent, and
cure arthritis.



Our **mission** is to pioneer
new orthopaedic treatments
that accelerate healing,
enabling people to stay
active through research,
development, innovation,
and education.



Stone
Research
Foundation



Letter from Our Leadership

Dear Friend of the Foundation,

It is our pleasure to share with you the 2023 Annual Report for the Stone Research Foundation. Thanks to you and other supporters, our work continues to propel forward the science of regenerative medicine, with the goal of helping you enjoy your favorite sports and activities for a lifetime. Your commitment brings us closer to fulfilling our vision to accelerate healing from sports injuries and to treat, prevent, and ultimately cure arthritis.

Building upon recent advances in stem cell science, we continue to develop innovative regenerative therapies to repair and replace damaged cartilage. Our studies focus on stimulating your body's biologic healing response to repair injury without hardware or invasive procedures. This is done by recruiting and directing your own progenitor cells to the site of injury. These cells have the inherent ability to reduce inflammation, alleviate pain, and form healthy new cartilage. Our approach will also benefit veterinary medicine by applying our methods to treat large animals, which often suffer injuries similar to those that affect humans.

With your unwavering support, and in partnership with several key scientific collaborators, our team remains focused and fully committed to expediting potent therapies that will advance the field of orthopaedics to the next generation. Our mission, as always, is to reduce the pain and suffering caused by osteoarthritis and sports-related injuries worldwide.

The entire SRF team deeply appreciates you, and your contribution as one of our generous donors. Your ongoing support fuels our mission's progress. Together, we hope to help you play forever!

Warmest Regards,



Mani Vessal, MA PhD
Senior Director
Research and Operations



Kevin R. Stone, MD
Founder and CEO



From Research to Reality: How You Help Us Develop Innovative Arthritis Solutions

The articular cartilage paste graft is one of the most potent solutions to arthritis available today. With hundreds of millions of people suffering from arthritis, improving and increasing accessibility to this cartilage-regenerating procedure is a critical priority for our shared mission.

Though Dr. Stone's articular cartilage paste graft demonstrates long-term success in his patients, the procedure has yet to gain widespread clinical adoption. Thanks to your support and a partnership with the California Institute of Regenerative Medicine (CIRM), we are improving upon this technique to encourage broader adoption.

Our two-year CIRM study, conducted in collaboration with Anthony Ratcliffe, PhD, tests several methods to enhance cartilage regeneration and accelerate the recovery process. This study will standardize the procedure to improve the ease and efficacy of this technique for orthopaedic surgeons.

We are on track to successfully complete the first phase of investigation, positioning ourselves for a pivotal meeting with the Food & Drug Administration (FDA). This upcoming discussion paves the way for human clinical trials and, ultimately, widespread clinical implementation.

While we still have much work to do, an effective, widely available cartilage regeneration therapy is now closer to reality—thanks in large part to your continuing support.



Collaborator

Anthony Ratcliffe, PhD, President and CEO of Synthasome Inc.



Your Generosity Helps Patients Like Martin From Losing Their Careers

Martin, a UPS driver with a passion for cycling and active life, lived in constant knee pain for more than 15 years after a motorcycle accident. Climbing stairs to deliver packages became nearly impossible. After 25 years at UPS, Martin faced a grim reality: His knee might force him to abandon his career and find another way to make a living, *“I thought that my career would be over and my financial picture would be a lot bleaker.”*

Fortunately, Dr. Stone’s articular cartilage paste graft procedure offered a different path for Martin’s future, repairing the arthritis in his knee and safely returning him to work until retirement. Today, thanks in part to your support, Martin feels deep gratitude for his outcome—especially after witnessing younger, athletic colleagues deteriorate physically while adhering to the traditional orthopaedic advice of delaying knee replacement.

Reflecting on his journey, Martin wishes for one thing: widespread access to these life-changing therapies, *“I hope that these procedures become widely available for the relief of human suffering.”*

“

“I hope that these procedures become widely available for the relief of human suffering.”

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What is the Articular Cartilage Paste Graft Procedure?

In 1991, Dr. Stone pioneered the articular cartilage paste graft technique to address the critical need for a more effective cartilage repair method.

It is a minimally invasive, one-step procedure that stimulates the regeneration of articular cartilage in arthritic joints. Independent clinical studies demonstrate that this repair technique can generate healthy, durable cartilage tissue, leading to long-term improvements in function and a significant reduction in pain.

Hear Martin’s Story in
His Own Words



How Your Support Connects Our Science From Humans to Horses

The value of scientific research often goes beyond its initial goals. With this in mind, we proactively designed our studies on the paste graft technique to aid both humans and animals.



Kirsten R. • Skier & Horseback Rider
Robotic Partial Knee Replacement

Your generosity allows SRF to partner with a leader in the field of veterinary science, David Frisbie DVM, PhD of Colorado State University. Together, we are developing an enhanced version of the articular cartilage paste graft to address injured joints in horses. This exciting collaboration establishes a pathway for our decades of cartilage research to benefit the veterinary world. If successful, our findings will offer vital pain relief and effective osteoarthritis solutions to our beloved pets and working animals.



Collaborator

David Frisbie, DVM, PhD, Dipl. ACVS, ACVS-MR - Professor of Equine Surgery at Colorado State University

Arthritis: A Global Crisis in Need of Better Solutions

Osteoarthritis (OA) is one of the most prevalent medical conditions in adults

- 1 in 5 U.S. adults are diagnosed with arthritis
- 595 million are diagnosed with OA globally, an increase of +132% since 1990.
- OA is the leading cause of work disability
- 1 in 4 adults with arthritis reports severe joint pain

Why Treat OA with the Articular Cartilage Paste Graft?

Current available treatments have significant limitations. These constraints include high cost, lack of reliable healthy cartilage regeneration, and limited application to early-stage arthritis. In contrast, the articular cartilage paste graft technique has the potential to produce durable cartilage regeneration lasting more than 30 years.



Swetha Amit • Triathlete & Long Distance Runner • Articular Cartilage Paste Graft & Meniscus Repair Patient

Hear Swetha's Story in Her Own Words





Your Support Helps Arthritic Ankle Patients Receive Life-Changing Surgery



At age 15, competitive figure skater Hannah underwent a failed ankle cartilage repair surgery following a skating accident. Hannah explored other treatment options, only to find highly invasive alternatives. The outcomes of these approaches would result in the complete end of her active life and decades of increasingly painful limitations.

However, thanks to Dr. Stone's innovative articular cartilage paste graft procedure, Hannah now thrives on a healthy ankle, engaging in any sport she chooses—including ice skating, a sport she was told she would never participate in again. This one-step, minimally invasive surgery successfully repaired her ankle cartilage defect in a way that no other commonly available treatment could achieve.

Nine years post-operation, Hannah has celebrated life's milestones free from debilitating injury, "One huge accomplishment for me was actually being able to walk across the stage as I graduated." We could not be more excited and inspired by all of Hannah's post-operation successes, big and small.

“

“I felt like had a brand-new ankle! Now I am playing tennis, swimming, wake surfing, and more.”

”

Your Support Fuels Breakthroughs in Injection Therapies

Our first-of-its-kind study will compare the leading injection therapies and lay the groundwork for a transformative new era in orthobiologic medicine.

The field of orthobiologic injections is expanding rapidly. These potent therapies are revolutionizing the field of regenerative orthopaedics—and have the potential to transform the whole medical field.

Orthopaedic providers now have a growing set of tools to treat your joint pain and arthritis without surgery. Over time, these therapies will evolve into targeted treatments designed to heal the unique biology of your joint. Emerging therapies from future studies could even be the key to fulfilling our mission of preventing and curing arthritis.

These are still early days though; advancement of this promise requires much-needed data to understand and demonstrate the full potential of these therapeutics.

This is why our team, in collaboration with Dr. Daniel Grande, PhD, designed an extensive, unbiased, first-of-its-kind study on orthobiologic injections. A member of the SRF Scientific Advisory Board, President of the International Cartilage Research Society (ICRS), and leading orthopaedic scientist at The Feinstein Institutes for Medical Research, Dr. Grande plays an integral role in carrying out this research. In collaboration with his laboratory, we will perform a head-to-head comparison to determine the most potent therapeutic injection to treat osteoarthritis and alleviate joint pain.

Conducting this science expands our understanding of these injection materials and opens the door to a vast array of powerful clinical applications. Importantly, it also increases the accessibility of these therapies so they may make it from the lab to your doctor's office.

Together, with your support for this study, we can make a major contribution to orthopaedics.



Collaborator

Daniel Grande, PhD - Associate Investigator Feinstein Institute



From Arthritic Pain to Pole Vaulting: Ken's Journey to World Masters Success

Kenneth St Cyr, 71, is one of the world-class athletes we track at the Foundation. What started as a treatment for pain relief evolved into a rediscovery of a long-lost sport and becoming a top-ranked track and field performer.

“I’ve got a brain of a 21-year-old and a body of a 70-year-old. But sometimes my body acts a lot younger, and this makes all the difference in the world.”

Arthritic pain resulting from a pole-vaulting injury in high school and a lifetime of marathon running brought Ken to The Stone Clinic for orthobiologic injections in 2016. The pain relief from the injections was so profound that he reignited his passion for pole vaulting decades after abandoning the sport due to injury.

Every year, Ken returns for combination injections of hyaluronic acid (HA) and platelet-rich plasma (PRP). Over time, these treatments, combined with rigorous training, transformed him into the #1 ranked pole vaulter in the U.S. for his age group. His increased performance culminated in a fourth-place finish at the 2023 World Masters Association Indoor Championships in Torun, Poland.

In Ken's words, *“The injections gave me the ability to train without limitations, something I thought was not possible in 2016 when knee replacement surgery was looming on the horizon.”*

Hear Ken's Story in
His Own Words





How You Are Driving Research Discoveries

Every major procedure performed by Dr. Stone is tracked by the Stone Research Foundation. This makes you an integral part of our research!

Each time you complete your procedure outcome surveys, you help advance orthopaedic care. Using an AI-driven research database software called PatientIQ installed in 2021, 2400+ Stone Clinic patients now provide continuous valuable feedback that the SRF team can translate into real, actionable insights for clinicians.

Every procedure is a chance for growth, and the data from your treatment empowers SRF to leverage these learning opportunities. Our investment in this database opens the door to formally sharing our outcome findings with the rest of the field, while also giving you the tools to improve care for yourself and others.

This year, we took the first step towards fulfilling our vision of using PatientIQ technology to enhance our data analysis for research papers. In June 2024, the medical journal Arthroscopy accepted our paper titled “Meniscus Allograft Transplantation in Conjunction with Arthroscopic Biologic Knee Restoration Delays Arthroplasty in Patients Over 50 Years of Age.”

Our First Patient-Powered Paper Helps People in Pain Waiting for Knee Replacement

Knee arthritis in patients aged 50 to 70 often stems from earlier meniscectomies for meniscal injuries. Numerous studies confirm that these surgeries don't improve long-term outcomes and, in fact, increase the risk of OA. Further research indicates that proceeding with joint replacement at a younger age raises the risk of revision surgery.

This gives rise to the question, “What to do for patients who are ‘too young’ to receive a knee replacement?” Our paper demonstrates that meniscus transplantation in 44% of patients over the age of 50 can delay knee replacement by an average of almost nine years—and for the other 46%, these transplants are still intact, some for over 25 years.

This publication contributes to current efforts to change the indications for meniscus transplantation in orthopaedics, expanding the age ranges from what was traditionally believed to be true. So, people who are between 50 to 70 and suffering from knee osteoarthritis no longer need to live in pain while waiting for knee replacement. Thanks to data provided by patients like you, we established that they may undergo a meniscus transplant that delays knee replacement and returns them to sports and everyday life.



Your Participation Reveals How Athletes Like David Can Play Forever

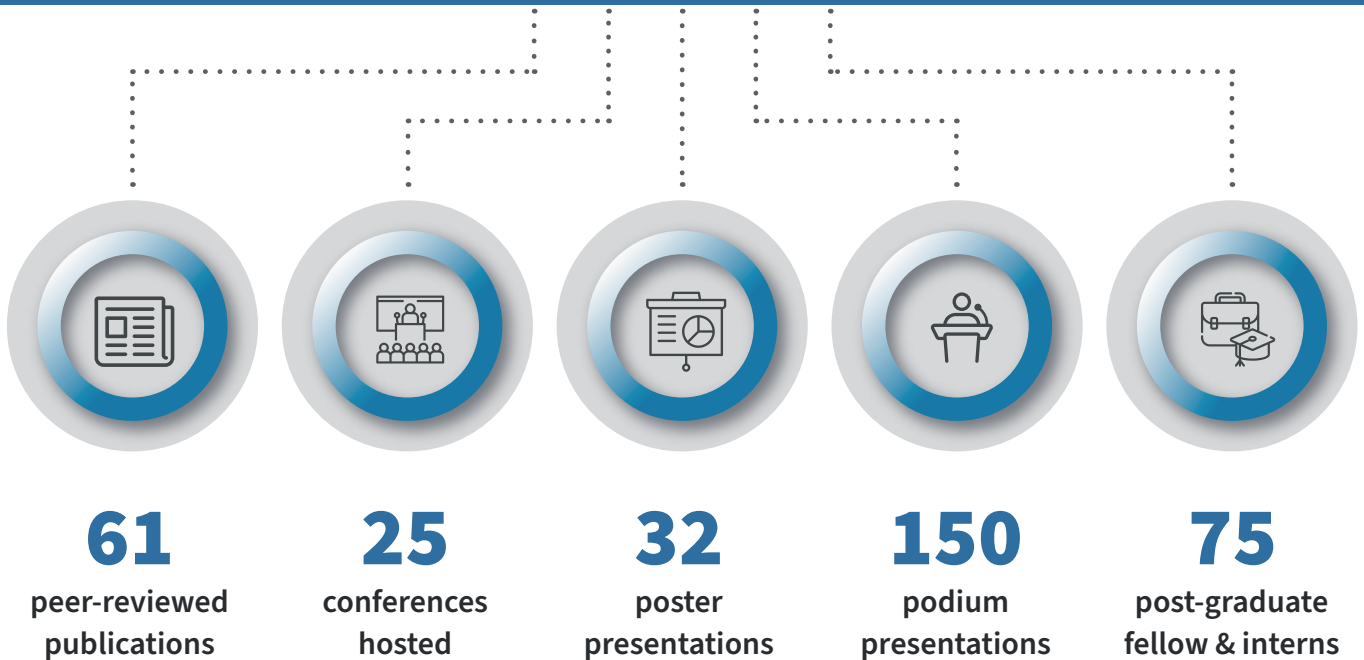
David Bjork's story is a testament to the transformative power of meniscus transplantation. In 1997, at the age of 53, David found himself debilitated by severe arthritis, yet deemed “too young” for knee replacement. Dr. Stone's biologic approach offered a lifeline. David underwent meniscus transplantation, a groundbreaking procedure that not only relieved his pain but restored his ability to pursue his lifelong passions of snow skiing and water skiing.

Rather than living in pain and reducing his activities until he was old enough for knee replacement, David thrived on his transplanted meniscus for more than 13 years before undergoing a total knee replacement—which should last him for the rest of his life.

Now, at age 80, David's spirit remains as vibrant as ever. He still hits the slopes for 30 days each year and glides across the water twice a week on his beloved skis. His story reveals that with the right treatment and mindset, age is no barrier to playing forever.

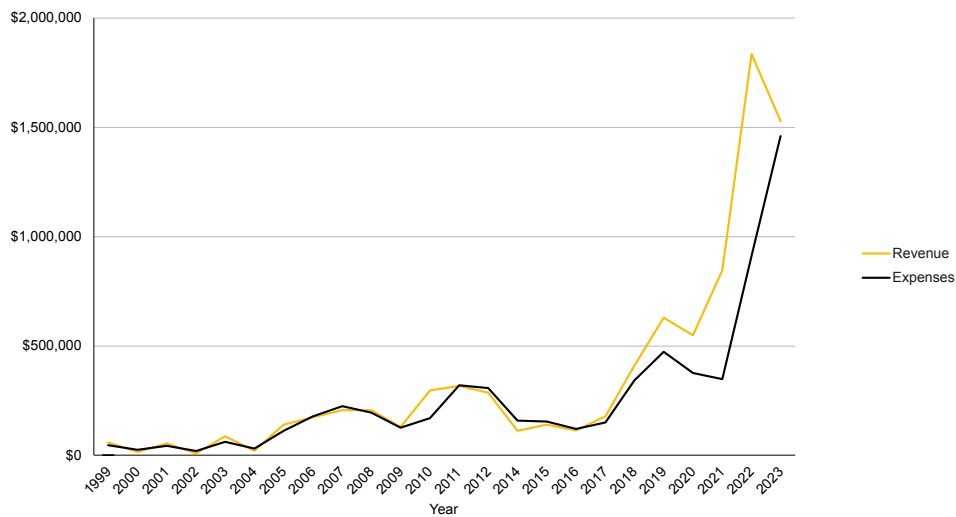
“I still water ski twice a week and snow ski 30+ days each year. I placed 5th at the Western Regional Water Ski Championships and compete nationally.”

Contributions to the World of Orthopaedic Science

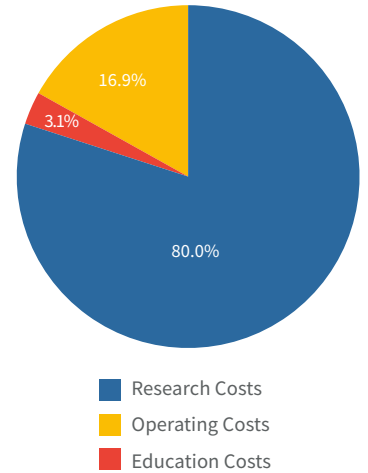


Financial Snapshot

SRF Organizational Growth



SRF 2023 Expenses By Percentage



Stone Research Foundation Financials for 2023

Revenue

\$1,528,589

Expenses

\$1,459,434

Platinum
Transparency
2024

Candid.

This year we earned Candid's, formerly known as Guidestar, Platinum Seal of Transparency. This is the highest level of financial transparency awarded by Candid.

Barry Winston • Hiker
& Skier • Meniscus &
Cartilage Repair Patient

Donors Who Make A Difference

Tim Strickler

Tim flew from Pennsylvania to begin his journey with the Foundation last year as a clinical trial participant. As an avid hiker with a passion for improving the lives of others, Tim's alignment with the Foundation's mission quickly sparked his involvement. After treatment at The Stone Clinic, he has since become a dedicated donor, Chair of the Leadership Council, and an active Executive Board member. Committed to the Foundation's development, Tim has taken the initiative to expand our fundraising. We are grateful for Tim's efforts this past year, which have been instrumental in bringing us closer to achieving our shared goals.



Christine and Ross Hartley

We extend our deepest gratitude to Christine and Ross Hartley for their support and profound impact on our organization. As outdoor enthusiasts and generous philanthropists, the Hartleys are involved in leadership circles focused on healthcare and community engagement. Chris has played an essential role on the Foundation's Leadership Council and Executive Board for the past several years, guiding us toward success with her exceptional dedication and service.



Mark and Laura Bailey

We are delighted to highlight the contributions of Mark and Laura Bailey. Mark and Laura felt instantly drawn to the Foundation by the sense of belonging amongst fellow athletes and champions of active lifestyles. Motivated by science that prolongs active life—including the successful treatment of Laura's knee—they have become integral donors and members of the Leadership Council. Mark's additional involvement as an Executive Board member directly strengthens our leadership with invaluable advice and insights. We deeply appreciate Mark and Laura's support in advancing more effective solutions for lifelong athletes and anyone who suffers from arthritis.



Tom and Gay O'Neal

We extend our sincere appreciation to Tom and Gay O'Neal. Tom has been a member of our Leadership Council for many years and has generously taken the lead in helping to acquire resources and navigate logistics for a crucial upcoming study to advance the articular cartilage paste graft technique. Additionally, Tom facilitated an exciting partnership with Dr. Mark DeCoster from Louisiana Tech University with whom we are collaborating on a project to investigate nanomaterials that may accelerate cartilage regeneration. Tom and his wife Gay know our work personally and, through their multi-faceted support for our projects and unwavering commitment to the Foundation, have contributed significantly to our research—and the entire field of regenerative orthopaedics.



Brett Torino

Brett is a new friend to the Foundation. He brings extensive experience as a business leader and philanthropist having served his Las Vegas community for more than 30 years. After his introduction to The Stone Clinic, our team had the pleasure of meeting with Brett to discuss our research pursuits at the 2023 American Academy of Orthopaedic Surgeons (AAOS) conference in Las Vegas. Brett's support has already been critical, and we are immensely grateful for his contributions to drive forward our innovative work.

Byron Wien: Cherished Friend and Esteemed Contributor

We extend heartfelt thanks to Anita and Byron Wien for their dedication to our research and generous contributions to the Foundation. We were honored to visit Anita and Byron, one week before Byron's passing, at a SRF fundraiser dinner that they graciously hosted in October of 2023. Byron was a remarkable individual who touched many lives through his brilliance and wisdom. His legacy will be cherished, and he will be dearly missed.



Arnold Caplan: The Father of MSC Research and a Guiding Inspiration

We would like to take a moment to celebrate the legacy of Professor Arnold Caplan. Recognized as the father of both basic science and clinical therapeutics of adult Mesenchymal Stem Cells (MSCs), his work impacted studies and treatment of various human diseases ranging from multiple sclerosis and osteoarthritis to spinal cord injuries and cancer.

Most importantly, Arnie was not just a supporter, but a believer. He helped guide our vision and embraced us with love. He was intentional in listening, offered insightful critique, encouraged us with a sparkle in his eye, and had a contagious sense of humor. Arnie also embodied the essence of mentorship, inspiring the next generation of professionals in our field with his unique warmth.

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Laura Bailey

Mark Bailey

Jennifer Brinkley

Rick Kimball

Tom O'Neal

D'Arcy Roche

Ryan Stone (Advisor to Exec. Board)

Steve Tomlinson



Alex King • Ultra Trail Runner
• Achilles Repair Patient

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Mark A. DeCoster, PhD - Associate Director, Biomedical Engineering & Rehabilitation Science at Louisiana Tech University

Daniel Grande, PhD - Associate Investigator Feinstein Institute

Julie Rosser, DVM, PhD - CEO of Pregenerate Inc.



Harper Cullen •
Surfer • Achilles
Repair Patient



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More – Donate Today!**



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