KHALED J. SALEH, MD, MSc MPH, FRCSC, MHCM, CPE

ORTHOPEDIC SURGEON | CLINICIAN- SCIENTIST | EXECUTIVE LEADER | HEALTHCARE AND

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EXECUTIVE SUMMARY

Research-grounded and innovative Orthopedic Surgeon recognized for leading and delivering cutting-edge solutions that drove medical and health care advancement and transformation within the surgical, joint reconstructive, and orthopedic fields. Partnered and consulted with dozens of multibillion-dollar Device and Pharma Companies ranging from 3M, Aesculap, BBraun, BD, CareFusion & KCI to Pfizer, Smith Nephew, Stryker, & Zimmer, and currently holds 5-patents with several more in the pipeline.

Restructured and positioned diverse care centers, organizations, care providers, and hospitals by pioneering the administrative operations, using extensive expertise from the field to transform care delivery into top-notch within the state and country while ensuring its affordability. Prioritized ground-breaking research that enabled the innovative and cost-effective discovery and optimization of new opportunities and solutions in clinical quality, medical, healthcare, that spans the surgical field across academic, not-for-profit, private, urban, and rural care settings. Enhanced staff deliverability and optimized dynamic leadership approach to manage and grow cross-functional teams, departments, and 3rd parties, integrating advances in data science to drive breakthroughs in technology, analytics, and human intelligence. Applied Artificial intelligence to address robust healthcare challenges from rising cost of healthcare to physician burnout and from the complex nature of genetic data to accelerating the rate of innovation and improving efficiency. Led research excellence while promoting patient-centered and family-oriented care service within a diversity and inclusion environment catering to patients from varying multicultural and economic backgrounds with increasing case complexity.

SELECTED PROFESSIONAL ACCOMPLISHMENTS

- Board-certified and fully licensed in the United States (American Board of Orthopedic Surgeons) as well as Canada (Fellow of The Royal College of Surgeons)
- Innovated, designed, and launched comprehensive profitable surgical-improvement programs that reduced costs, increased quality and efficiency across the spectrum of healthcare settings
- Successfully provided over 100,000 patient consultations with 8,500+ orthopedic procedures performed, gaining global rank and recognition as one of the tops amongst 65,000 of his peers
- Recognized as one of the members in the field of orthopedics, granted Lifetime Associate National Research Council of National Academies of Science Medicine & Engineering
- Championed international healthcare advancement evident in the successful implementation of multiple health-measurement metrics, economic policies, and medical guidelines adopted by Health Ministries, Organizations, and Institutes globally
- Served as Healthcare consultant and an Executive Leader in the spheres of Physician Management, Clinical Research, Medical Education, Hospital Organizations and Governmental Agencies
- Possessed a portfolio of multibillion-dollar Device and Pharma Companies/clients ranging from Aesculap, BBraun, BD, & CareFusion to Pfizer, Smith Nephew, Stryker, & Zimmer while holding 5-patents with several more in the pipeline
- Elected by peers for inclusion in Best Doctors in America® 5 years running
- Partnered and worked with over 750 researchers and academic collaborations worldwide and was supported by 50 Grants and Awards totaling 12.5 million dollars, with collaboration resulting in 50+ Honors and Awards
- Received invitation for 400+ presentations delivered at national and international meetings that boasts 66k+ downloads and 35 media mentions from research works and publications by the scientific, medical and healthcare executive community
- Built a strong culture of innovation and goal achievement entrenched in diversity, flexibility, collaboration, and career growth that attracted and honed effective partnerships in the industry between providers and health care systems
- Advanced solutions for Graduate Medical Education using multidisciplinary team delivery to address clinical experience, innovation & research, quality assessment, and skill set to develop peer-reviewed evidenced based protocols using technology advancement

PROFESSIONAL WORK EXPERIENCE

SALEH MEDICAL INNOVATIONS (SMI) CONSULTING PLLC.

Formerly Saleh Orthopaedic Research & Education LLC

President & Chief Executive Officer

Optimize expert background in healthcare and medical field to launch a consulting firm to support, shape, and guide organization's medical innovation, opportunity maximization, medical advances, etc. SMI offers consulting, quality measures development and abstraction, and many other flexible, customized solutions that influence our clients and organizations to implement the highest standards by utilizing best practices. Achievements

Innovated and launched solutions that encouraged continuous improvement initiatives in healthcare quality with reasonable costs for 3rd parties

June. 1995 – Present

- Grew extensive portfolio of client base, including providers, hospitals, and pharm/device organizations, delivering cutting-edge solutions, quality measures development, and recommendations via consultation service
- Promoted the highest standards in health, medical care, technology innovation across clients organizations by customizing solutions tailored to their environment, services, patient-base, and goals with sustainable results

- Integrated advances in data science to deliver a breakthrough in technology, analytics, and human intelligence packaged into cutting-edge solutions for clients and healthcare organizations
- Supported medical advancement across healthcare companies by influencing the maximization of new opportunities and advances through customized solutions that boost clients' confidence to innovate within their organizations
- Strengthened market edge by stabilizing partnership with leading experts, healthcare companies, government agencies, nationally renowned clinical consultants, attorneys, etc

HEALTH SERVICES RESEARCH, DETROIT VETERAN AFFAIRS MEDICAL CENTER

Orthopedic Attending, Depart of Surgery and Section Chief of Surgical Institute of Research Excellence June 2018 - Present Embody SIEHSR's goal to revolutionize the field of surgical care by leading innovative and cutting-edge research that uncover new opportunities, growth, and advancement integrated into organizations' surgical operations. Prepare necessary documents and data that guarantee the transmission of the research finding and knowledge to the next generation. Achievements

- Guaranteed quality care service that facilitated fully active and productive lives for patients and veterans by leading groundbreaking research in surgical operations
- Championed transformation in surgical care by pioneering cutting-edge research that uncovers new opportunities and surgical advancement in the medical field
- Promoted a collaborative care environment that delivers surgical care to patients from diverse multicultural backgrounds by advancing diversity and inclusion within a respectful and dignified environment

MICHIGAN MUSCULOSKELETAL INSTITUTE, PLLC

Oct. 2017 - Jun. 2019

Repositioned the organization as a cutting-edge and innovative institute that integrates advances in medical technology to deliver patientcentric musculoskeletal care that's accessible and affordable to all.

<u>Achievements</u>

President

- Prioritized patient-centered care delivery within a world-class orthopedic care environment by restructuring and positioning the institute as a high-quality musculoskeletal care center
- Streamlined overall operations and service delivery to guarantee accessibility to budget-friendly and cost-effective, high-quality musculoskeletal care for the patient
- Revolutionized healthcare services and operations by innovating and integrating cutting-edge medical care in an environment that placed patients first at-all-times

MUSCULOSKELETAL INSTITUTE DETROIT MEDICAL CENTER

Apr. 2016 - Oct. 2017

Held different designations, including Executive-In-Chief, Director Institute for Innovation and Clinical Excellence, Co-Director Perioperative Institute for Surgical Excellence. Served as the Executive-in-Chief for the Detroit Medical Center Musculoskeletal Institute of Excellence, Orthopedics and Sports Medicine at the Detroit Medical Center (DMC), a 9-hospitals system with more than 2000 licensed beds, 3000 affiliated physicians, and over 12,000 employees. Spearheaded groundbreaking research and care restructuring that generated many quality projects later published under the Innovation Institute.

Achievements

C-Suite Executive

- Championed healthcare transformation by managing a 375M service, maximizing clinical quality, volume, and operational efficiency to boost financial performance through strategic leadership
- Enhanced staff deliverability while cultivating a culture of excellence and a positive work environment by optimizing a dynamic leadership approach to train and motivate teams for high satisfaction amongst employees and providers
- Exceeded set goals by leading 17% growth for 2years consecutively by optimizing efficiency, quality, and patient safety for the service line, resulting in recognition as a leader in academic
- Transformed and positioned DMC as a cutting-edge research institute with the innovation and direction of the Institute for Innovation and Clinical Excellence, leading to exponential growth in publication and presentations from 7 to 65
- Created and co-directed the Perioperative Institute for Surgical Excellence to efficiently integrate and align other service lines, resources, and physicians with orthopedics
- Guaranteed and achieved the highest quality of patient-centered care delivery with high patient satisfaction in an environment of cutting-edge research by optimizing resources to streamline organizational processes
- Maximized educational and research background to structure the scholarly mission for the Musculoskeletal Institute as Residency Program Director and Adult Reconstruction Fellowship Director
- Major Clients: Detroit Tigers, Pistons, and Detroit Red Wings

ACADEMIC EXPERIENCE

SOUTHERN ILLINOIS UNIVERSITY SCHOOL OF MEDICINE

Professor & Chair of Orthopedic Surgery | Medical Director Jul. 2009 – Dec. 2015 Held different positions, including Professor & Chair of Orthopedic Surgery, Medical Director, and Translational Clinical Research Fellowship Director Adult Reconstruction. Spearheaded the Division of Orthopedic Surgery, structuring the vision and the mission for a 55-member service line that provided musculoskeletal care to a population of over 2 million residents living in central and southern Illinois. Strengthened the institution's market share through strategic partnerships, including partnering with St. Louis Cardinals team with our physicians – the Cardinals won the World Series in 2011, NL Pennants in 2011 & 2013, and Central Division titles in 2013, 14, 15 during my tenure. Achievements

- Curtailed financial challenges for seamless operations and constant funding by originating solutions that resolved and improved account receivable issues, claim analyses, and management principles and practice
- Gained the best market value for the institution while maximizing contracts, market opportunities, and market shares via detailed market share and contract analysis at the line item level, including vendor standardization and conversion
- Championed continuous improvement with a 27% increase in patient satisfaction by revamping clinic processes, patient flow, and timely response to patient complaints, earning SIU Group Quality Award in 2010

- Prioritized quality and evidence-based care practice with zero error by instituting effective communication channels across staff \geq for proper implementation of treatment plans and co comprehensive patient care
- Maximized ROI by curbing excess expenditure by \$850k+ annually while maintaining excellent patient outcomes despite the doubling of case volumes, with a measurable increase in case-mix and complexity
- Grew net revenue for FY 2014 to 74% + growth rate through various strategies that curtailed costs, increased case volume, patient outcome, and satisfaction
- Expanded SIU reach by partnering with the Major League Baseball team the St Louis Cardinals and went on to be part of the national League Pennant. Blessing Hospital in Quincy to successfully open the first SIU Orthopedic clinic outside of Springfield, generating over a million in net revenues during the first 2-years of operation

ORTHOPEDIC SURGERY UNIVERSITY OF VIRGINIA

Professor & Division Chief Adult Reconstruction | Prof. Public Health Sciences, Fellowship Dir. Iun. 2004 - Iun. 2009 Coordinated and spearheaded all aspects of the clinical service line with daily administrative operations that promoted clinical and business excellence. Built partnership and collaborations that facilitated the launch of a new program with national recognition, a partnership that benchmarked well amongst top University Health Centers across the country. **Achievements**

- Restructured processes and enhanced the deliverability and performance efficiency of the Adult Reconstruction Division by \geq innovating and integrating a collaboration and supervision system for all relevant procedures to the services
- ≻ Optimized medical and surgical care for all patients despite case complexities via internal streamlining that impacted care delivery and patient-centered approach from patient scheduling call to discharge at University of Virginia
- \triangleright Contributed to UVa national recognition by partnering with Dr. William Jiranek to launch the first State Registry in the US for Joint Replacement surgery that quickly positioned UVa as the top Joint Programs in the state

DEPARTMENT OF ORTHOPEDIC SURGERY UNIVERSITY OF MINNESOTA

Associate Professor | Associate Prof. School of Public Health, Fellowship Director, Adult Reconstruction Jun. 1999 – Jun. 2004 Designated to lead the department's cutting-edge research in advance Joint Reconstructive Surgery and excellence in Graduate Medical Education by leading a high-performing team to guarantee ground-breaking contribution in the field. Achievements

- Championed and improved the department efforts to advance Joint Reconstructive Surgery and Graduate Medical Education in \geq the country
- Prioritized educational excellence by leading a high-performing team in cutting-edge research in the field with outcome-based \triangleright research findings that made significant contributions
- Awarded the esteemed honor of being selected as an American British Canadian Exchange Fellow by the prestigious Orthopedic \triangleright Association during my 5yers tenure

NOT-FOR-PROFIT EXPERIENCE

FAJR SCIENTIFIC, NOT-FOR-PROFIT 501(C)(3)

Director

Jun. 2018 - Present Represent organization healthcare mission and goals of optimizing scientific research and innovation in healthcare practice to advance education and adoption of findings and research discovery amongst physicians and allied health personnel in the field per patient quality, safety, and cost-efficiency.

Achievements

- Streamlined healthcare delivery into a safer, high quality, accessible, and affordable care service by leading scientific research ⊳ and innovation in evidence-based care practice
- Championed advances in the healthcare field by cultivating national and global partnership that ensured understanding of ≻ scientific discovery and research evidence and their successful application in a healthcare operation

ORTHOPEDIC EDUCATION INC.

Oct. 2004 - Oct. 2016

President Founded and launched a not-for-profit organization with the primary mission to provide conferences and free educational materials that bring evidence-based practice to orthopedic surgeons in underserved countries. Championed the care to indigent populations internationally as a second-generation immigrant through clinical mission trips, Health Policy publications founded on scientific doctrines, invited speakerships, consulting, and national committee work.

Achievements

- Enhanced quality medical and healthcare services across the globe by educating and training surgeons in underserved countries \geq through clinical mission trips, invited speakerships, health policy publications, consulting, etc.
- Advanced evidence-based care practice by planning, organizing, and hosting health conferences and distributing free educational materials to surgeons from underserved countries
- Expanded organization's reach and awareness across international countries with over 5,200 surgeon attendees recorded since inception, resulting in international recognition of the conference
- Streamlined and digitalized healthcare content for accessibility by partnering with top-notch experts to help bring evidencebased surgical techniques to orthopedic surgeons globally by designing educational materials, like online lectures, textbooks, CDs, and DVDs
- The coursed produced Six Orthopaedic text books that have been translated in several languages, and over 100 pee-reviewed publications in top-notch Journals

APPOINTMENTS

Years	Appointments
2019- Present	Sphere Orthopedics Regenerative Health PLLC.
2018- Present	Orthopedic Attending, Depart of Surgery, Detroit Veteran Affairs Medical Center
2018- Present	Section Chief, Surgical Institute of Excellence for Health Services Research
10-2018-Present	Chief Medical Officer, Ranfac Corp.
10-2018-Present	Chief Medical Officer, Regenacell Therapy Inc.
04-2018-Present	Director, FAJR Scientific, Not-for-profit 501(c)3
10-2017-Present	President, Michigan Musculoskeletal Institute PLC
01-1995 -Present	CEO, Saleh Medical Innovations Consulting PLC
	Detroit Medical Center Executive-in-Chief, Musculoskeletal Institute of Excellence, Orthopedic Surgery and Sports Medicine Service Line, & Institute for Innovation & Clinical Excellence. Co-Founder of the Perioperative Institute for Surgical Excellence Program Director, Orthopedic Residency. Fellowship Director, Adult Reconstruction Surgery. Member of the DMC Medical Executive Committee, Member of the DMC Graduate Medical Education Committee. Tenet System-wide Project Lead: Minimizing Variation in Orthopedic Physician Order-Sets
2009-2016	Southern Illinois University School of Medicine Professor and Chairman of Orthopedic Surgery Fellowship Director, Adult Reconstruction, Department of Orthopedic Surgery University Director, Clinical and Translational Research
2004-2009	University of VirginiaDivision Head, Adult ReconstructionDepartment of Orthopedic SurgeryFellowship Director, Adult Reconstruction,Professor with Tenure, Department of Orthopedic SurgeryAdjunct Professor, Department of Public Health Sciences
1999-2004	University of MinnesotaAssociate Professor with Tenure, Department of Orthopedic SurgeryAdjunct Associate Professor, Division Health ServicesResearch & Policy, School of Public Health

EDUCATION AND QUALIFICATIONS

Years	Degree	Institutions
2009	MSc in Health Care Management School of Public Health	Harvard University
1998	FRCS(C) Canada	University of Toronto
1996	Masters of Science (Public Health)	McMaster University
1991	Doctor of Medicine	University of Western Ontario, London, Ontario
1987	Bachelor of Science	University of Western Ontario, London, Ontario

POST GRADUATE EDUCATION CERTIFICATION

Years	Post Graduate Education	Institutions
1998-99	Clinical Fellow: Adult Reconstruction	Hospital for Special Surgery University of Cornell Medical College
1998-99	Research Fellow: Health Services Research	American Academy of Orthopedic Surgeons: Orthopedic Research and Education Foundation
1997-98	Clinical Fellow: Lower Extremity Reconstruction	University of Toronto Mount Sinai Hospital
1997-98	Research Fellow: Health Services Research	Medical Research Council of Canada
1994-95	Research Fellow: Master of Science Health Research Methodology	University of McMaster
1992-97	(PGY-2 – PGY-6) Fellow	University of Toronto Royal College of Surgeons
1991-92	Rotating Internship (PGY-1)	University of Western Ontario

CERTIFICATIONS

Year	Certification Board	
2016	College of Physician Executives	
2012	Recertification to 2024 American Board of Medical Specialties	
2007	National Provider Information: 1881735280	
2006	American Board of Medical Specialties	
2004	Fellow American College of Surgeons	
2002	Diplomat, American Board of Orthopedic Surgeons	
1998	Fellow of The Royal College of Surgeons of Canada	
1992	College of Physicians and Surgeons of Ontario	
1991	Licensure Medical Council of Canada	

LICENSURES

Years	Licensure State	Status
2021-Present	Texas Medical Board	Permanent
2021- Present	New York State Office of Professions, Dept. of Education	Permanent
2016-Present	Michigan Board of Medicine	Permanent
2010-Present	The State Medical Board of Ohio	
2009-Present	Illinois Board of Medicine	Permanent
2004-2010	Commonwealth of Virginia Board of Medicine	Permanent
1999 - 2004	Minnesota Board of Medical Practice	Permanent
1994-2003	Commonwealth of Pennsylvania Board of Medicine	Permanent

PROFESSIONAL AFFILIATIONS

Years	Societies	
2009-Present	Board Examiner - American Board of Orthopedic Surgeons	
2009-Present	Illinois State Medical Society	
2007-Present	International Society of Arthroscopy, Knee Surgery & Orthopedic	
2005-Present	Association of Bone Joint Surgeons	
2004-Present	Fellow American College of Surgeons	
2003-Present	American Orthopedic Association AOA	
2001-Present	American Academy of Orthopedic Surgeons	
2001-Present	Orthopedic Research and Education Foundation	
1998-Present	College of Physicians and Surgeons of Ontario	
1998-Present	Fellow of the Royal College of Physicians and Surgeons of Canada	
1992-Present	Canadian Orthopedic Association	
1991-Present	Canadian Medical Association	

HONORS

Years	50 Honors- List Below Includes Past Few Years	
2018	Presidential Lecturer & Honorary Member British Hip Society, Derby UK	
2017	James Buchanan Memorial Visiting Professorship – Penn State Hershey Medical Center	
2017	DMC Harper University Hospital Physician Engagement Award	
2016	Hospital For Special Surgery Visiting Professor Alumni Meeting: Cornell Weil Medical School Perspectives from a 20-Year Journey of Orthopedics	
2015	Medical Innovator, Sangamon County Medical Society	
2009 to 2014	Elected by his peers for inclusion in Best Doctors in America®	

PATENTS AND INNOVATION

Years	Patent and Innovation
	 United States Patent Number 8,491,662
2013-15	 United States Patent Number 9,220,600
	 United States Patent Number 8,491,661
	 United States Patent Number 9,155,627
	• European Patent Number 2,775,964 (B1)
	• European Patent Number 2,438,889 (B1)
2010	Awarded the lifetime designation of National Associate from the council of the National Academy of Science

Selected AWARDS

Years	Awards
	Supported by over 50 grants totaling 11.5 million dollars in financial
2019	America Academy of Orthopaedic Surgeons Senior Achievement Award
2010-Present	Examiner, American Board of Orthopaedic Surgeons
2009-2015	Nominated and Voted by Peers - Best Doctors in America®
2000-2015	National Institute of Health Reviewer Scientific Panel
2013-15	Researcher of the Year, Department of Surgery, SIU School of Medicine
2015- Present	Ranked top 99th percentile on research gate, based on scientific reputation and productivity
2015	400+ manuscripts as senior author with 750 collaborators Manuscript download: 66,000 & Citations: 6000+times.
2014	Presidential Speaker & Guest Lecturer, London Business School – Operational Innovation
2014	Expertise ranked 20th amongst 21,432 Orthopedic surgeons worldwide, related to knee replacement expertise, by Expertscape.com
2009	Organizing Committee: National Academies Keck Futures Initiative (NAKFI) Longevity
2009	Institute of Medicine Roundtable on Evidence-Based Medicine Metrics

MENTORSHIP AND AWARDS

Years	Awards
2015	Nominated Educator of the Year, SIU School of Medicine
2014	Excellence in Teaching Award Residents, Department of Surgery, SIU
2013	Outstanding Medical Educator, Orthopedic Surgery, SIU School of Medicine

PROFESSIONAL DISTINCTIONS

ACTIVITIES

- Presidential Speaker & Honorary Member, British Hip Society
- Deputy Editor, Journal of Bone and Joint Surgery
- Examiner American Board of Orthopedic Surgeons
- American Orthopedic Association Executive Board
- Chair American British Canadian Traveling Fellowship
- Chair of AAOS Arthritis Patient Reported Outcome Measures committee
- Editorial Board, Journal of Arthroplasty
- Visiting Editor Clinical Orthopedics & Related Research Osteonecrosis

ADVOCACY

- Comment to the Docket FDA Conflict of Interest Guidance
- * NIH Agency Health Research Quality Patient Safety and Quality Improvement Act, Patient Safety Organization Development
- National Institute for Arthritis & MSK: Office Medical Applications of Research Consensus Development Total Knee Arthritis
 CDC Centers for Disease Control / Arthritis Foundation: Quality Indicators Project
- Agency for Healthcare Research and Quality: Quality Indicators, Validation Project
- Agency for Healthcare Research and Quality: Committee Development of Hip Fracture Repair Evidence Report

COMMITMENT TO CONTINUING EDUCATION

Developed and Chaired Over 550 Continuing Medical Education hours across several medical multispecialty focus delivered Globally

- Developed a multidisciplinary Healthcare Delivery and Payment Models summit which brought together leaders in the field from across the US to help administrators, providers, and stakeholders to meet the challenges by the ever- evolving American healthcare landscape
- Academy of Orthopedic Surgeons (AAOS), American Orthopedic Association (AOA),
- Annual Advances in Arthritis, Arthroplasty, and Trauma Course (AAAT), Meeting of the Combined Orthopedic Association (COA)

PRESENTATIONS

(Total: 466 presented in over 80 Conferences Internationally)

Total
29
110
202
81
74
49

PUBLICATIONS

Total: 307

Publications	Total
Senior Editor Books	7
Peer-Reviewed Publications	277
Peer-Reviewed Articles Accepted and In Press	8
Peer-Reviewed Articles in Submission	3
Non Peer-Reviewed Publications	23
Electronic Publications	9
Chapters	31

CLINICAL AND RESEARCH FELLOWS SUPERVISED 2000-2017 (Total: 91)

Please note: This Curriculum Vitae is only a summary. Please see Full version for more detailed information