

# Curriculum Vitae Lars Henrik Frich

Professor, MD, PhD, Research leader

Ortopaedic dept. Hospital Sønderjylland

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Lars Henrik Frich is a certified shoulder surgeon with experience in shoulder and rotator cuff reconstruction during almost 30 years. He runs a research group on shoulder reconstruction established 7 years ago. He has entered collaboration with a strong biomedical team resulting in a significant elevation of his academic competences and several important papers are either published or under preparation.

## 1.0 Education

### 1.1 Academic education

1986 Doctor of Medicine, Aarhus University (January 1986).

1994 PhD program at Aarhus University. Thesis: "Glenoid bone strength and bone architecture of the normal and the rheumatoid arthritic shoulder" (degree June 6, 1994).

1996 Specialist in Orthopedic Surgery and Traumatology.

2001 Expert in Shoulder and Elbow Surgery.

## 2.0 Employments

### 2.1 Postgraduate employments

1997-2001 Staff Specialist Aarhus University Hospital.

2001-2003 Consultant position and Randers County Hospital.

2003-2020 Senior Consultant position in Orthopedic Surgery and Traumatology, OUH

2021- Senior Consultant at Sygehus Sønderjylland.

### 2.2 University employments

2013 Clinical Associate Professor, Department of Clinical Research, SDU.

2014-2020 Vice head, Department of Clinical Research, SDU

2019 Affiliated Professor, Institute of Molecular Medicine, SDU.

2021- Clinical professor and Research leader, Dept. of Regional Health Research, SDU

## 3.0 Scientific profile *International cooperation*

1996 Visiting fellowship in USA (Columbia University NY and Mayo Clinic Rochester MN)

2014 Visiting professor in USA (Columbia University NY and Mayo Clinic Rochester MN)

### 3.1 My own research

I have studied rotator cuff muscle inflammation, degeneration and regeneration in animal models and under tear conditions. My latest animal studies has shown enhanced muscle healing in experimental rotator cuff lesions after stem cell therapy. My research group involves several researchers from a wide variety of disciplines including engineering and cell biology, pathologists as well as clinical scientists and statisticians. Our results indicate that manipulation of inflammation and stimulation with stem cells are promising for future treatment strategies related to rotator cuff disease.

### 3.2 Recent key scientific achievements

- Among the first to characterize the biological response of the supraspinatus muscle to tendon lesion.
- The first to show baseline knowledge of rotator cuff muscle regenerative capacity.

## 4.0 Research Management

2016-2017 Research Management Course, Copenhagen Business School (CBS).

2021 Online Compassion Cultivating Training. SDU/Stanford University, USA and SDU.

## 5.0 Mentership and PhD dissertations

**Postdocs at University of Southern Denmark** Current 2. Former 2 **Ph.D. candidates:**

Main supervisor of 2 phd students and have co-supervised 5 phd students (University of Southern Denmark one at AU).

During my employment as Vicehead of the dept. of Clinical Medicine, SDU I have enrolled, introduced, coached (a few) and evaluated approx. 300 phd students.

I have assessed 4 phd thesis (all UK) and one is ongoing. One chairmanship of a phd evaluation committee (SDU)

**Mastertheses (medicine, pharmacy and molecular medicine) at University of Southern Denmark** Main supervisor of 6 B.Sc. students. Current 3. **Pregraduate research year students (elite trail)** Main supervisor of 5 medical students.

## 6.0 Scientific Publications

## 6.1 H-Index and citations

H-Index: 24 (Scopus)

Number of citations: 1475 (www.scopus.com, accessed August, 2023).

### 6.1.2 International peer-reviewed original papers

In total: 63 papers, 16 as a first author and 11 as last author.

Last 5 years: 4 papers as first authors and 6 papers as last author.

### 6.1.3 National clinical guidelines

2 guidelines, Danish National Institute of Health on referral and management of shoulder disease.

### 6.1.4 Book chapters

3 international book chapter and 3 Danish textbook chapters.

### 6.1.5 Podcasts

3, latest a podcast about rotator cuff muscle recovery, European Society for Shoulder and Elbow Surgery

## 6.2 Oral Presentations

100+ oral presentations. Approximately 40+ international oral presentations in the area of Biomechanics, Shoulder & Elbow disease and Rotator cuff Biology.

## 6.3 Recent key publications

Jensen PT, Lambertsen KL, Frich LH. **Assembly, maturation and degradation of the supraspinatus enthesis.** Journal of Shoulder and Elbow Surgery. 2018 Apr;27(4):739-750. doi: 10.1016/j.jse.2017.10.030

Ravn MK, Ostergaard TI, Schrøder HD, Nyengaard JR, Lambertsen KL, Frich LH. **Supraspinatus and deltoid muscle fiber composition in rotator cuff tear conditions.** JSES International. 2020 Sept;4(3):431-437. doi: 10.1016/j.jseint.2020.04.016

Frich LH, Rosa-Fernandes L, Schrøder HD, Hejbøl EK, Nielsen PV, Jørgensen PH et al. **The inflammatory response of the supraspinatus muscle in rotator cuff tear conditions.** Journal of Shoulder and Elbow Surgery. 2021 Jun;30(6):e261-e275. doi: 10.1016/j.jse.2020.08.028

Steengaard K, Hejbøl EK, Jensen PT, Degn M, Linh Ta TM, Stensballe A et al. **Early-stage inflammation changes in supraspinatus muscle after rotator cuff tear.** Journal of Shoulder and Elbow Surgery. 2022 Jul;31(7):1344-1356. doi: 10.1016/j.jse.2021.12.046

Cartuliales MB, Hejbøl EK, Schrøder HD, Pedersen AK, Frich LH. **Stem cell treatment for regeneration of the rotator cuff: study protocol for a prospective single-center randomized controlled trial (Lipo-cuff).** Trials. 2024 Oct 19;25:696. doi: 10.1186/s13063-024-08557-0

## 7.0 Grants

1991 Danish Rheumatism Association (grant233-753-MP) DKr. 60.803

1991 Independent research fond/SSF (grant12-0242) DKr. 309.300

1992 Danish Rheumatism Association (grant 233-753-13.4.92) DKr. 100.000

1993 AP Møller fonden Dkr. 2,0 mill.

2013 Energistyrelsen. OP VENT Project. (project 345-019) DKr. 2,5 mill.

2015 OUH research fond. Sinex project (project22-A1121) Dkr. 89.000

2016 Danish Rheumatism Association (projectR150-A4380) Dkr. 75.000

2017 Energistyrelsen. OP VENT-2 Project. (project 349-035) DKr. 1.8 mill.

2018 PoC Grant, SDU (Patentno. 60590EP01)(SDU:16/26555) DKr. 190.000

2018 PoC Grant, Region of Southern Denmark(RSD/40138) DKr. 360.000

2018 Forskerkarriere puljen RegionSyddanmark(18/17929) DKr. 365.000

2018 OUH research grant (A3159) Dkr. 100.000

2021 PersonalGrant, Region of Southern Denmark Dkr.800.000

2022 Aase og Ejnar Danielsens fond Dkr. 200.000

2024 Frie ogstrategiske forskningsmidler RSYD Dkr.994.000 \_\_\_\_\_ Dkr. 10.000.000