General PhD degree

Name: Zheer Kejlberg Al-Mashhadi *Pharmacological risk factors for fracture in type 2 diabetes mellitus* 

Title: MD, PhD Date: May 19–Jul 22 (degree awarded 25 Sep 2023)

Authorisation ID: OCPL8 Institution: Aarhus University (AU) & Steno

Diabetes Center Aarhus (SDCA)

Advisor: Prof. Søren Gregersen, consultant, PhD

Discipline: Pharmacoepidemiology

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GitHub: https://github.com/zheer-kejlberg Period: Feb 12–Jan 18

ORCID: 0000-0003-1201-199X Institution: Dept. of Clinical Medicine, Aarhus University

Medical degree

#### **Clinical work**

Apr 24	Senior House Officer	General medicine, Lægehuset Marselis v. Læge Karen Kjær Larsen
Nov 23–Mar 24	Part-time locum	Regional Psychiatry, Viborg, Central Denmark Region
Jul 23–Oct 23	Senior House Officer, pt. 2	Dept. of Endocrinology and Internal Medicine, AUH
May 23–Jun 23	Research leave	2 months' leave to finish PhD thesis
Aug 22–Apr 23	Senior House Officer, pt. 1	Dept. of Endocrinology and Internal Medicine, AUH
May 19–Mar 21	Part-time locum	AUH Psychiatry, Central Denmark Region
Nov 18–Apr 19	House Officer ("KBU")	Dept. of Psychosis (S7), AUH Psychiatry
May 18–Oct 18	House Officer ("KBU")	Dept. of Endocrinology and Internal Medicine, AUH
Feb 18–Apr 18	House Officer ("pre-KBU")	Dept. of Endocrinology and Internal Medicine, AUH
Aug 16–Dec 16	Student internship	Dept. of Cardiology, Aalborg University Hospital
		Course participation
Nov 19	Basal Metabolism and Molecular Mechanisms in Diabetes (2.30 ECTS), Danish Diabetes Academy	
Apr 16	Akutte invasive procedurer, SATS Aarhus	
Apr 16	Emergency medicine, level 2, OAMS (Oslo Akuttmedisinske Studentforening), Oslo, Norge	
Sep 15	Diving Medicine Summer School, Dive with Doctors, Dahab, Egypten	
Sep 14	SATS Katastrofekursus, SATS Aarhus	

#### Communication

2020–2022	<b>Q&amp;A forum: 300+ questions answered</b> (Facebook page "Ask a doctor about coronavirus")		
Award	Best Flash Talk, PhD Day 2020, Health, AU		
	Teaching		
Okt 18	3 konfrontationstimer, <b>Medicinsk kommunikation</b> (medicin- og sygeplejestuderende), PUST & SATS Aarhus		
Sep 17	3 konfrontationstimer, <b>Medicinsk krisekommunikation</b> (medicinstuderende), SATS Aarhus		
	Presentations		
Sep 22	Pharmacological risk factors for fracture in type 2 diabetes mellitus, Thursday Meeting, HoK		
Jun 22	Pharmacological risk factors for fracture in type 2 diabetes mellitus, Clinical conference, SDCA		
Mar 22	Undertaking a PhD, Steno Thursdays, SDCA		
Dec 21	The insulin suppression test as an alternative to HIEC for measuring insulin sensitivity, META lab meeting, SDCA		
Feb 20	Measuring insulin sensitivity: the insulin suppression test and HIEC, Thursday Meeting, HoK		
Jan 20	Diabetic bone disease, Reaven-lab, Stanford Cardiovascular Medicine, CA, USA		

	Course participation
Jun 21	2.60 ECTS, Advanced Course in Written English, Health, AU
Feb 20	2.80 ECTS, Research Presenter – Educational Informatics, Health, AU
Feb 20	2.70 ECTS, Principium – PhD students as teachers and learners, Health, AU

### Collaboration

May 20–Sep 21	Board member, The PhD association, Health, AU	
Oct 15-Oct 17	Board member, SATS Aarhus (Students' Society for Anaesthesiology and Traumatology)	
Oct 15, 16 & 17	Course organiser for SATS Catastrophe Course x 3, SATS Aarhus	
Maj 16	Junior Organiser, EMS2016 conference, Emergency Medical Services, The Capital Region of Denmark and TrygFonden	

# Organisation and administration

May 24	Performed <b>quality improvement project</b> on uric acid arthritis, Lægehuset Marselis
Nov 22–Apr 23	Clinical supervisor for house officer (KBU-læge)
Jan 21–Jan 23	Early clinical rotation organiser (2nd semester medical students), HoK, AUH
Feb 20–Feb 22	Member of the PhD committee and the subcommittee for credits and waivers, The Graduate School of Health, Health, AU
Nov 19–May 22	Thursday meeting planner (weekly scientific meetings), HoK, AUH
Jan 19–Apr 19	Holiday shift planner, junior physicians, AUH Psykiatri

# **Health advocacy**

Co-author	Two chapters in the book "Kvalitet og patientsikkerhed under covid-19" (Quality and patient safety during covid-19)
	Published by the Danish Society for Patient Safety.
Sep 20	Recipient of the Patient Safety Award 2020 along with the other contributors on "Ask a doctor about coronavirus".
	Awarded by the Danish Society for Patient Safety.
Feb 18	Instructor: Basic CPR (6 hours), Salling Group
Mar 16	First aid provider (8,5 hours), Rally Midtjylland

### Research and academia

Publications	First authorships: 4 Co		uthorships: 8
Google Scholar	Citations: 178	H-index: 8	I10-index: 8
Scopus	Citations: 128	H-index: 8	
			Positions
Feb 25—	Postdoc, Steno Diabetes Center Aarhus, part-time (40%)		
	Prediction of type 2 diabetes and medication responses		
May 19–Jul 22	PhD student, Steno Diabetes Center Aarhus and Aarhus University		
			Miscellaneous roles
May 21–Jul 22	Co-investigator, S	Step-10, Novo No	rdisk
	Efficacy and safety	y of once-weekly s	semaglutide 2.4 mg versus placebo in people with obesity and prediabetes
May 19–Jul 22	Co-investigator, 1	The SOUL Trial, No	ovo Nordisk
	Semaglutide Card	iovascular Outcon	nes Trial in Patients with Type 2 Diabetes Mellitus

	Novo Nordisk
Feb 17–Jun 17	Clinical Research Assistant, NeuRescue ApS
	Company of the least to the continue and construct
114	Current collaborations and projects
#1	Constitutional chromosomal abnormalities and adverse outcomes of COVID-19: a nationwide study,
	Collaboration: Dept. of Clinical Epidemiology, Dept. of Clinical Genetics & Dept. of Endocrinology, Aarhus University Hospital
#2	Metcercise, randomised controlled trial on the effects of exercise on bone health in type 2 diabetes
	Collaboration: Steno Diabetes Center Aarhus & Steno Diabetes Center North Denmark (SDCN)
#3	<b>HEADWISE</b> , national stepped-wedge cluster-RCT comparing different algorithms for cerebral CT after mild head trauma.
	Collaboration: Dept. of Radiology, Aarhus University Hospital, "Vælg Klogt", and the HEADWISE consortium
	Research stays
Jan 20	Stanford Cardiovascular Medicine, CA, USA
	2 week personal training in the insulin suppression test with Dr. Fahim Abbasi og Dr. Joshua Knowles, Reaven-lab.
Nov 21	Steno Diabetes Center North Denmark, Aalborg, DK
	4 week research stay with Prof. Peter Vestergaard
	Conference presentations
Sep 22	Short oral presentation, EASD (European Association for the Study of Diabetes), Stockholm, Sweden
	"Fracture risk in treatment with GLP-1RA compared to DPP-4i"
Jun 22	Oral presentation, DES (Dansk Society for Endocrinology) conference 2022, Kolding, Denmark
	"SGLT2 inhibitor treatment does not increase risk of osteoporotic fractures compared to GLP-1 receptor agonists"
May 22	Oral presentation, ECE (European Congress of Endocrinology), Milano, Italy
	"SGLT2 inhibitor treatment does not increase risk of osteoporotic fractures compared to GLP-1 receptor agonists"
May 22	Oral presentation, SSSD (Scandinavian Society for the Study of Diabetes), Reykjavik, Iceland
	"Fracture risk in treatment with GLP-1 RA compared to DPP4-I"
D 22	Other scientific meetings
Dec 22	Oral presentation, The Dept. of Endocrinology & SDCA symposium
	"Systemic glucocorticoid use increases fracture risk independently of type 2 diabetes mellitus"
Jun 22	Poster, Steno Research Retreat
	"SGLT2-I treatment is not associated with an increased risk of osteoporotic fractures when compared to GLP-1 RA"
Nov 21	Oral presentation, SDCA-SDCN research symposium
	"Diabetic bone disease"
Jan 21	Online poster, PhD Day 2021, Health, AU
	"SGLT2-inhibitors and fracture risk"
Jan 20	Flash talk, PhD Day 2020, Health, AU
	"Diabetic bone disease"
	Teaching
	(active teaching hours stated)
13h 30m	Clinical teaching (medical students, 2nd semester), Dept. of Endocrinology, AUH
42h 30m	Simulation: Emergency medicine week (medical students, 12th semester), Health, AU
03h 00m	Lecture: Basic diabetology (molecular medicine students, 9th semester), Health, AU
92h 00m	Instructor: Basic CPR (medical students, 2nd semester), Health, AU
29h 45m	Simulation: Emergency medicine and communication (medical students), SATS Catastrophe Course & The FAM Day
26h 45m	Teaching and simulation: Emergency medicine (medical students), SATS Aarhus
2011 <del>1</del> 3111	reacting and simulation. Emergency medicine (medical students), SATS Addition

35h 00m	Practical training: venous access, arterial blood gas, ultrasound/eFAST (medical students), FADL, SATS Aarhus		
03h 00m	Practical training: Thoracostomy on pigs (medical students), SATS Aarhus		
	Peer reviewer		
Journals	Frontiers in Endocrinology		
	Basic & Clinical Pharmacology & Toxicology		
	Scientific Reports		
	R-udvikler		
R-package	https://github.com/zheer-kejlberg/ <b>Z.gtsummary.addons</b>		
	Open-source R-package to add SMD-values and to mask microdata in baseline tables developed using {gtsummary}		
R-package	https://github.com/zheer-kejlberg/ <b>publistR</b>		
	An R-package to easily create structured and formatted publication lists		
	Course participation		
May 22	3.10 ECTS, Causal Inference in Health Science, Health, AU		
Mar 22	2.00 ECTS, Which Covariates to Adjust for: An introduction to causal directed acyclic graphs, Health, AU		
Mar 22	3.10 ECTS, Introduction to Machine Learning in Health Sciences, Health, AU		
Oct 21	5.00 ECTS, <b>Stanford Medical Statistics Certificate</b> , Stanford Online		
Oct 20	4.70 ECTS, Applying Clinical Epidemiological Methods and Danish databases to study chronic disease, Health, AU		
Sep 19	3.00 ECTS, Responsible Conduct of Research, Health, AU		
Sep 19	1.40 ECTS, Data Management and Stata, Health, AU		
May 19	GCP: Good Clinical Practice, Brookwood Academy		
Jan 16–Jun 16	5.00 ECTS, <b>Clinical Epidemiology</b> (elective course, 9th semester), Health, AU		
	Additional conference participation		
Mar 17	NAMS (Norsk Akutmedicinsk Studenterforum), NTNU, Trondheim, Norge		
Apr 17	Prehospital Medicine Against the Elements, St. Bartholomew's Hospital, London, UK		
May 16	EMS2016 (Emergency Medical Services), Emergency Medical Services and TrygFonden, Copenhagen, DK		

# Miscellaneous

Languages	Danish, English, Arabic (Iraqi), Kurdish (Sorani)		
Software	Languages: R (level: high), Python (intermediate), Matlab (beginner), STATA (beginner)		
	IDE: RStudio, Spyder.		
	Version Control: Git + GitHub.		
	Package and environment management: Homebrev, conda, pip		
Memberships	Danish Medical Association and Junior Doctors' Association		
	Danish Society for Endocrinology and The Society for Young Endocrinologists		
	Dansk Society for Pharmacoepidemiology		