Trapeziometacarpal arthrosis: Presentation, psychosocial aspects, and management

Becker, S.J.E.

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PhD Portfolio
Name PhD student: Stéphanie J.E. Becker  
PhD period: April 2011 – December 2015  
Names PhD supervisors: Prof. dr. D.C. Ring, Prof. dr. C.M.A.M. van der Horst  
Name PhD co-supervisor: Dr. S.D. Strackee

## 1. PhD Training

<table>
<thead>
<tr>
<th>General Courses</th>
<th>Year</th>
<th>Workload (Hours/ECTS)</th>
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</thead>
<tbody>
<tr>
<td>- The Principles and Practice of Clinical Research Data Management (MGH)</td>
<td>2012</td>
<td>0.1</td>
</tr>
<tr>
<td>- Ethics and Clinical Research Protocols (MGH)</td>
<td>2012</td>
<td>0.1</td>
</tr>
<tr>
<td>- IRB and QI Roundtable Series: Consent Form Writing (MGH)</td>
<td>2012</td>
<td>0.1</td>
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<tr>
<td>- How to Give a Presentation (MGH)</td>
<td>2011</td>
<td>0.1</td>
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<tr>
<td>- What Does the IRB Really Want? How to Write a Human Studies Protocol (MGH)</td>
<td>2011</td>
<td>0.1</td>
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<tr>
<td>- How to Make a Poster (MGH)</td>
<td>2011</td>
<td>0.1</td>
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</table>

<table>
<thead>
<tr>
<th>Specific Courses</th>
<th>Year</th>
<th>Workload (Hours/ECTS)</th>
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</thead>
<tbody>
<tr>
<td>- A Primer on Complex Trait Genetics: Principles for the Clinical Investigator (MGH/HMS)</td>
<td>2013</td>
<td>0.2</td>
</tr>
<tr>
<td>- Introduction to Survey Design (MGH/HMS)</td>
<td>2013</td>
<td>0.2</td>
</tr>
<tr>
<td>- Workshop on Study Design: Using MGH Clinical Care Data for Clinical Effectiveness Research (MGH)</td>
<td>2012</td>
<td>0.5</td>
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<tr>
<td>- Design and Conduct of Clinical Trials (MGH)</td>
<td>2012</td>
<td>1</td>
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<tr>
<td>- Certificate in Applied Biostatistics (HMS)</td>
<td>2012-2013</td>
<td>3</td>
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<tr>
<td>- An Introduction to the Enhanced RPDR Query Tool (MGH)</td>
<td>2012</td>
<td>0.1</td>
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<tr>
<td>- Problem-Based Biostatistics for the Clinical Investigator (MGH/HMS)</td>
<td>2012</td>
<td>0.3</td>
</tr>
<tr>
<td>- Applied Biostatistics for Clinical Trials (MGH/HMS)</td>
<td>2012</td>
<td>0.2</td>
</tr>
<tr>
<td>- Basic Biostatistics for Clinical Research: Working Sessions (MGH/HMS)</td>
<td>2012</td>
<td>0.2</td>
</tr>
<tr>
<td>- Basic Biostatistics for Clinical Research (MGH/HMS)</td>
<td>2012</td>
<td>0.2</td>
</tr>
<tr>
<td>- REDCap (Research Electronic Data Capture) Programming Training (MGH)</td>
<td>2011</td>
<td>0.1</td>
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<table>
<thead>
<tr>
<th>Seminars, Workshops and Master Classes</th>
<th>Year</th>
<th>Workload (Hours)</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Musculoskeletal Ultrasound Workshop</td>
<td>2011</td>
<td>0.1</td>
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</table>

<table>
<thead>
<tr>
<th>Podium Presentations</th>
<th>Year</th>
<th>Workload (Hours)</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Becker SJE, Bruinsma WE, Guitton TG, Van der Horst CMAM, Strackee SD, Ring D. Variabiliteit in behandeling van trapeziometacarpale artrose tussen chirurgen. Wetenschappelijke Vergadering van de Nederlandse Vereniging voor Plastische Chirurgie, oktober 2015, Amsterdam</td>
<td>2015</td>
<td>0.5</td>
</tr>
</tbody>
</table>

MGH: Massachusetts General Hospital  
HMS: Harvard Medical School
- Teunis T, Becker SJE, Blauth J, Dyer GSM, Ring D. Variation in care for hand osteoarthritis. 25th Annual Richard J. Smith, M.D. Residents/Fellow Conference, May 2014, Cambridge, Massachusetts 2014 0.5


- Teunis T, Becker SJE, Blauth J, Dyer GSM, Ring D. Hand osteoarthritis: variation in resource utilization. 41st Annual Meeting of the New England Hand Society, December 2013, Sturbridge, Massachusetts 2013 0.5

- Becker SJE, Briet JP, Hageman M., Ring D. Death, Taxes, and Trapeziometacarpal Arthrosis. 24th Annual Richard J. Smith, M.D. Residents/Fellow Conference, May 2013, Boston, Massachusetts 2013 0.5


- Hoogstins CES, Becker SJE, Ring D. Is Carpal Tunnel Syndrome a Progressive, Bilateral Disease? 24th Annual Richard J. Smith, M.D. Residents/Fellow Conference, May 2013, Boston, Massachusetts 2013 0.5


- Becker SJE, Makanji HS, Ring D. Changes in Treatment Plan for Carpal Tunnel Syndrome Based on Electrodiagnostic Test Results. 80th Annual Meeting of the American Academy of Orthopaedic Surgeons, March 2013, Chicago, Illinois 2013 0.5

- Hoogstins CES, Becker SJE, Ring DC. Electrodiagnostic Findings and Clinical Symptoms of the Contralateral Side in Patients With Abnormal Distal Sensory Latency of the Median Nerve. Annual Meeting of the American Association for Hand Surgery, January 2013, Naples, Florida 2013 0.5


- Becker SJE, Makanji HS, Ring D. Changes in Treatment Plan for Carpal Tunnel Syndrome Based on Electrodiagnostic Test Results. 23rd Annual Richard J. Smith, M.D. Residents/Fellow Conference, May 2012, Boston, Massachusetts 2012 0.5

- Becker SJE, Bot AGJ, Curley S, Jupiter JB, Ring D. A Prospective Randomized Comparison of Neoprene Versus Thermoplast Short Opponens Splinting for Trapeziometacarpal Arthrosis. Annual Meeting of the New England Hand Society, December 2011, Sturbridge, Massachusetts 2011 0.5

- Becker SJE, Makanji HS, Ring D. Expected and Actual Improvement of Symptoms with Carpal Tunnel Release. Annual Meeting of the New England Hand Society, December 2011, Sturbridge, Massachusetts 2011 0.5
**Poster Presentations**


- Becker SJE, Guitton TG, Ring DC. Predictors of Missed Research Appointments in a Randomized Placebo-Controlled Trial. *Annual Meeting of the American Association for Hand Surgery, January 2013, Naples, Florida* 2013 0.5

- Becker SJE, Makanji HS, Ring DC. Changes in Treatment Plan for Carpal Tunnel Syndrome Based on Electrodagnostic Test Results. *Annual Meeting of the American Association for Hand Surgery, January 2013, Naples, Florida* 2013 0.5


**National conferences**

- Annual Meeting of the American Academy of Orthopaedic Surgeons, March 2013, Chicago, Illinois 2013 0.5

- Annual Meeting of the American Society for Surgery of the Hand, September 2012, Chicago, Illinois 2012 0.5

- Annual Meeting of the MGH Scientific Advisory Committee, April 2012, Boston, Massachusetts 2012 0.25

- Annual Meeting of the New England Hand Society, December 2012, Sturbridge, Massachusetts 2012 0.25

- Annual Meeting of the New England Hand Society, December 2011, Sturbridge, Massachusetts 2011 0.25

- Annual MGH Clinical Research Day, October 2012, Boston, Massachusetts 2012 0.25

- Annual Richard J. Smith, M.D. Residents/Fellow Conference, May 2013, Boston, Massachusetts 2013 0.25

- Annual Richard J. Smith, M.D. Residents/Fellow Conference, May 2012, Boston, Massachusetts 2012 0.25

- Annual Richard J. Smith, M.D. Residents/Fellow Conference, May 2011, Boston, Massachusetts 2011 0.25
- Scholingsdag en wetenschappelijke vergadering van de Nederlandse Vereniging voor Plastische Chirurgie, oktober 2014, Tilburg
  2014 0.5
- Scholingsdag van de Nederlandse Vereniging voor Plastische Chirurgie, oktober 2013, Nijmegen
  2013 0.25
- Wetenschappelijke vergadering van de Nederlandse Vereniging voor Plastische Chirurgie, oktober 2015, Amsterdam
  2015 0.25

Other
- Harvard Hand Journal Club 2011-2013  1

### 2. TEACHING

<table>
<thead>
<tr>
<th>Mentoring, Tutoring and Supervising</th>
<th>Year</th>
<th>Workload (Hours/ECTS)</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Sanne Jansen - Dissatisfaction after trapeziometacarpal arthroplasty; surgeon's treatment recommendation with and without radiographs (AMC)</td>
<td>2013</td>
<td>0.5</td>
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<tr>
<td>- Saroj Golay – Radiographic collapse of the lunate in Kienböck disease; The radiological prevalence of Kienböck disease (MGH)</td>
<td>2013</td>
<td>0.5</td>
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<tr>
<td>- Dirk ter Meulen – The radiological prevalence of Kienböck disease (MGH)</td>
<td>2013</td>
<td>0.5</td>
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<tr>
<td>- Anne-Carolin Döring – Antiplatelet and anticoagulant therapy during minor outpatient hand surgery; A slightly dorsally tilted lunate on MRI can be considered normal (MGH)</td>
<td>2013</td>
<td>1</td>
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<tr>
<td>- Joost Strooker – Minimal Clinically Important Differences in Upper Extremity Illness; Ganglion Cyst Treatment Strategy: Routine Offer of Aspiration; Common hand and upper extremity disorders: does the prevalence of unnoticed disease differ between patients with traumatic vs atraumatic primary diagnoses; Post-traumatic trapeziometacarpal arthrosis; Pain Intensity and Disability after Corticosteroid Injection for Trigger Finger (MGH)</td>
<td>2013</td>
<td>1</td>
</tr>
<tr>
<td>- Silke Spit - Disability in patients with trapeziometacarpal arthrosis: incidental vs presenting diagnosis; The prevalence of unanticipated hamate hook abnormalities (MGH)</td>
<td>2013</td>
<td>1</td>
</tr>
<tr>
<td>- Thijs Oosterhoff - Giant cell tumor of tendon sheath; Increased Scapholunate Angle on Lateral Magnetic Resonance Imaging Views (MGH)</td>
<td>2012</td>
<td>1</td>
</tr>
<tr>
<td>- Timothy Voskuilj - Predictors of disability and pain in patients newly diagnosed with trapeziometacarpal arthrosis (MGH)</td>
<td>2012</td>
<td>0.5</td>
</tr>
<tr>
<td>- Robin Blok - Diagnosis of carpal tunnel syndrome: interobserver reliability of the blinded scratch test (MGH)</td>
<td>2012</td>
<td>1</td>
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<tr>
<td>- Dennis Makarawung - Disability and pain after cortisone versus placebo injection for trapeziometacarpal arthrosis and de Quervain syndrome; Disability in patients with trapeziometacarpal joint arthrosis: incidental vs presenting diagnosis (MGH)</td>
<td>2012</td>
<td>1</td>
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<tr>
<td>- Stijn Bekkers - Relationships between pain misconceptions, disability, patients’ goals and interpretation of information from hand therapists (MGH)</td>
<td>2012</td>
<td>1</td>
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</tbody>
</table>
- Mark van Suchtelen - Progression of carpal tunnel syndrome according to electrodiagnostic testing in nonoperatively treated patients; Electrodiagnostic thresholds for diagnosis of carpal tunnel syndrome (MGH) 2012 1
- Jan Paul Briët - Death, taxes, and trapeziometacarpal arthrosis; Giant cell tumor of tendon sheath (MGH) 2012 1
- John King - Disability in patients with trapeziometacarpal arthrosis: incidental vs presenting diagnosis (MGH) 2012 0.5
- Emily Thornton - A prospective randomized comparison of neoprene vs thermoplast hand-based thumb spica splinting for trapeziometacarpal arthrosis (MGH) 2012 0.5
- Jillian Gruber - Progression of carpal tunnel syndrome according to electrodiagnostic testing in nonoperatively treated patients (MGH) 2012 0.5
- Pim van Dijk - New Clinical Diagnostic Aid for Carpal Tunnel Syndrome (MGH) 2012 0.5
- Jeroen Bossen - Relationships between pain misconceptions, disability, patients’ goals and interpretation of information from hand therapists; Excisional biopsy of suspected benign soft tissue tumors of the upper extremity: correlation between preoperative diagnosis and actual pathology; New Clinical Diagnostic Aid for Carpal Tunnel Syndrome (MGH) 2012 1
- Mariano Menéndez Furrer - New Clinical Diagnostic Aid for Carpal Tunnel Syndrome (MGH) 2012 0.5
- Heleen Sluijmer - Benign upper extremity tumors: factors associated with operative treatment; Excisional biopsy of suspected benign soft tissue tumors of the upper extremity: correlation between preoperative diagnosis and actual pathology (MGH) 2012 1
- Charlotte Hoogstins - Contralateral electrodiagnosis in patients with abnormal median distal sensory latency; Initial and final treatment and main symptom of patients diagnosed with carpal tunnel syndrome (MGH) 2012 1
- Niek van der Willigen – Borderline carpal tunnel syndrome (MGH) 2011 1
- Steven Ferree – Risk factors for return with a second trigger digit; Borderline carpal tunnel syndrome (MGH) 2011 0.5
- Marjolein Mulders - Replantation and revascularization vs. amputation in injured digits (MGH) 2011 0.5
- Marianne Mol - Resolution and recurrence rates of idiopathic trigger finger after corticosteroid injection (MGH) 2011 0.5
- Hanneke Bruijnzeel – Adverse events of open A1 pulley release for idiopathic trigger finger (MGH) 2011 0.5

3. PARAMETERS OF ESTEEM

<table>
<thead>
<tr>
<th>Grants</th>
<th>Year</th>
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<tbody>
<tr>
<td>Stichting Fonds Dr. Catharine van Tussenbroek</td>
<td>2013</td>
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<tr>
<td>Genootschap Noorthey</td>
<td>2011</td>
</tr>
<tr>
<td>Harvard Orthopaedic Research Fund</td>
<td>2011</td>
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<tr>
<td>Stichting Anna Fonds</td>
<td>NOREF</td>
</tr>
<tr>
<td>Stichting Vreedefonds</td>
<td>2011</td>
</tr>
</tbody>
</table>
List of Publications
PEER REVIEWED

In this thesis
Authors’ contributions

Authors’ contributions
Study design and concept: SJE Becker, D Ring. Study execution: all authors. Data analysis and interpretation: SJE Becker, SA Spit, D Ring. Manuscript preparation: SJE Becker, SA Spit, JD King, D Ring. Manuscript editing, critical review, and final approval: all authors. No conflicts of interest were declared.

Becker SJE, Teunis T, Ring D, Vranceanu AM. The trapeziometacarpal arthrosis symptoms and disability questionnaire: development and preliminary validation. Accepted for publication in Hand (N Y).
Authors’ contributions
Study design and concept: SJE Becker, D Ring. Data acquisition: SJE Becker, D Ring. Data analysis and interpretation: SJE Becker, AM Vranceanu. Manuscript preparation, editing, critical review, and final approval: all authors. No conflicts of interest were declared.

Authors’ contributions
Study design and concept: SE Curley, JB Jupiter, D Ring. Study execution: all authors. Data analysis and interpretation: SJE Becker, AGJ Bot, D Ring. Manuscript preparation: SJE Becker, D Ring. Manuscript editing, critical review, and final approval: all authors. No conflicts of interest were declared.

Authors' contributions
Study design and concept: DJS Makarawung, SJE Becker, D Ring. Data acquisition: DJS Makarawung, SJE Becker. Data analysis and interpretation: DJS Makarawung, SJE Becker, D Ring. Manuscript preparation: DJS Makarawung, SJE Becker, D Ring. Manuscript editing, critical review, and final approval: all authors. No conflicts of interest were declared.


Authors' contributions


Authors' contributions
Study design and concept: SJE Becker, WE Bruinsma, CMAM van der Horst, SD Strackee, D Ring. Data acquisition: SJE Becker, TG Guitton. Data analysis and interpretation: SJE Becker, D Ring. Manuscript preparation: SJE Becker, D Ring. Manuscript editing, critical review, and final approval: SJE Becker, WE Bruinsma, Guitton TG, CMAM van der Horst, SD Strackee, D Ring. No conflicts of interest were declared.


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Not in this thesis


Döring AC, Overbeek CL, Teunis T, Becker SJE, Ring D. A Slightly Dorsally Tilted Lunate on MRI Can Be Considered Normal. Under review.

Later AFL, **Becker SJE**, Bruggemans EF, Klautz RJM. The Mid-Term Effects of Antifibrinolytics in Low- and Intermediate-Risk Cardiac Surgery. Under review.

Later AFL, **Becker SJE**, Bruggemans EF, Klautz RJM. Evaluation of the Self-Reported Quality of Life Three Years After Cardiac Surgery. Under review.

**OTHER**


Curriculum Vitae
Stéphanie Jeanine Eléonore Becker was born on June 28th 1985 in The Hague. She grew up with her parents and younger brother in The Hague. During her youth she played tennis and attended theater school “Rabarber” during which time she also participated in three theater productions. In 1997 she started high school at the Maerlant Lyceum in The Hague and was on the school board during one year.

After graduating from high school in 2003, she started Medical School at Leiden University. She joined student association Leidse Studenten Vereniging Minerva and was actively engaged in various committees and extracurricular activities. During Medical School she also worked as an allocation duty officer at Eurotransplant International Foundation in Leiden.

After obtaining her MD degree in 2011, she started a PhD research fellowship at the Orthopaedic Hand and Upper Extremity Service of Massachusetts General Hospital, Harvard Medical School, in Boston, MA. From April 2011 until August 2013, Stéphanie worked on more than two dozen projects concerning various upper extremity conditions with a focus on trapeziometacarpal arthrosis under supervision of Professor Dr. David Ring. She also supervised over twenty medical students and has presented her work at multiple national and international conferences.

After returning to the Netherlands in September 2013, she finished her PhD at the Department of Plastic, Reconstructive and Hand Surgery at the Academic Medical Center in Amsterdam during which time she also worked as a General Surgery resident for ten months at the Spaarne Ziekenhuis in Hoofddorp.

Currently, Stéphanie works as a Psychiatry resident at Arkin in Amsterdam and is pursuing a career as a general practitioner. On March 1st 2015 she will start her Family Medicine residency at the Academic Medical Center in Amsterdam. She is eager to stay actively involved in research and combine this with clinical practice.