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# Prof IAN VLOK

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## Personal

### Information:

- Full names: Adriaan Johannes Vlok

## Summary of qualifications:

### University of Stellenbosch, Tygerberg, South Africa

- Bachelor of Medicine, Bachelor of Surgery - M.B.,Ch.B. 1999
- MMed (Neurosurgery) 2009
- PhD (Neurosurgery) 2020

### College of Medicine, South Africa

- 2001 Diploma in Obstetrics & Gynaecology - Dip (OBS) SA
- 2004 Primary Exams (Anatomy, Physiology, Pathology)
- 2005 Surgical Intermediate Exams (ICU, Surgical Disciplines)
- 2008 FC (Neurosurgery)

### Institute of Maritime Medicine SA

- 2002 Dive Medical Officer

## Current positions held:

### Head of Division Neurosurgery (since 01 April 2013) and Chief Specialist Neurosurgery (since 1 Jan 2016)

University of Stellenbosch and Tygerberg Academic Hospital  
Associate Professor

### President of the College of Neurosurgeons

### Executive Committee of the SA Spine Society (Academic coordinator)

### Executive Committee member of the SA Neurosurgical Society

### AO Spine national chairman

### Clinical director of Sunskill surgical skills laboratory

**Fellowship:**

- AO Spine International Fellowship (01/01/2009 – 31/12/2009)  
Groote Schuur Hospital, Cape Town (Prof RN Dunn)

**International  
Exposure:**

- Invited faculty, EANS annual meeting, Dublin 2019, Hamburg 2021
- Invited faculty Spine20 meeting Rome, 2021
- Invited faculty, Belgian International Spine Symposium, Brussels, 2019, 2020, 2021
- Invited Professor and Keynote Speaker Ohio State University USA 2019
- Invited faculty, AO principles course, Maputo, Mozambique, 2019
- Invited faculty, World Spine Care International Meeting Gaborone Botswana 2018
- Keynote speaker Namibian Trauma Society Windhoek, Namibia 2017
- Invited faculty, Indian Neurosurgical Society annual meeting, Nagpur 2017
- Invited faculty, CNS annual meeting San Diego USA 2016 (CAANS delegation)
- Invited faculty World Spine Care International Meeting Mahalapye Botswana 2016
- International Group for Advancement of Spinal Science – Invited faculty 2011,2014,2015
- International Invited Faculty, The 21st Advanced Techniques in Cervical Spine Decompression and Stabilization Congress, St Louis USA, 2014
- Spinal Principles Course – Kigali, Rwanda. Invited International Faculty 2015
- Keynote speaker, Surgical Research Society Namibia, August 2015
- AO International Chairpersons course – Zurich, Switzerland 2013
- Presenter at International Society of Paediatric Neurosurgeons Biennial Congress 2008 (Cape Town)

**National  
Exposure:**

- Lead Neurosurgery Spinal Surgeon in Tygerberg Academic Hospital since 2010
- Involved in nearly all spinal educational and training activities in South Africa through organized societies (SA Spine Society, AO Spine, IGASS, SA Neurosurgical Society) as faculty since 2010
- South African Neurosurgical Society Executive Committee member – Member's Secretary (term 2014 – 2018)
- Serve on Board of College of Neurosurgeons of South Africa
  - National Convenor of Neurosurgery Primary exams 2013 – 2017
  - Leading a national team to convert the format of the primary exams (2016)
  - Leading a national team to convert the format of the FC(Neurosurgery) Final exams to commence 2019
- Served on Society of Neurosurgeons of South Africa Biennial Congress organizing committee (Treasurer) 2012

- Host of annual cadaver training courses for spinal surgeons of all levels in SA since 2010 in collaboration with Dept. Anatomy
- Regular spinal referrals from other provinces and countries – Eastern Cape, Northern Cape, Gauteng, Namibia, Zimbabwe
- Anatomical spinal surgery techniques Skills Workshop 2015 (Host and Organizer)
- Advanced Endoscopic Trans-sphenoidal training course Host 2014, 2015
- Spinal instrumentation techniques workshop Organizer & Instructor 2011, 2013, 2015, 2016, 2017
- Anterior Cervical workshop Organizer & Instructor 2012
- Endoscopic and Instrumentation techniques in Spinal Surgery Cadaver Workshop 2010 (Instructor)

**Invited as  
faculty/guest  
speaker:**

- SANS annual meeting invited speaker 2015, 2016, 2017, 2018, 2019, 2021
- Spinal Masters Symposium – Durban 2016, (International Faculty)
- Spinal Masters Symposium - Mastering Adversity (Adult Deformity and Degeneration) – October 2015 (International Faculty)

**(Masters level refers to more than 10 years of experience or significant experience in spinal surgery)**

- Spinal Tumors and Infections Master's Symposium – Cape Town 2014 – Chairperson and Organizer – Attended by 45 master's level spinal surgeons in South Africa. (International Faculty Present)
- South African Spine Society Annual Meeting (2014 – Cape Town, 2015 Durban) (International Faculty Present)
- Anatomy Society of South Africa congress 2014 (Stellenbosch) – Guest Speaker (International Faculty Present)
- Annual Stellmed GP congress Invited speaker (2011,2014, 2015,2017, 2021)
- AO Spine Basic Course, Johannesburg, Oct 2015
- Stellmed: Approach to cervical and lumbar spine pathologies – Presenter and organizer 2013, 2014 – Educational courses for GP's and Day Hospitals
- Cervical Spine Masters Symposium Pretoria 2013 (International Faculty Present)
- Spinal Principles Course Cape Town July 2012 (International Faculty Present).
- Spinal Basic Principles course – Cape Town (2011) (International Faculty Present)
- Spinal Advanced Surgery Course - Durban (2010) (International Faculty Present)
- Spinal Advanced Surgery Course – Cape Town (2009) (International Faculty Present)
- Southern Medical Spine Symposium Chairman and Host - Nov 2014
- Southern Medical Lumbar TDR and DLIF course Chairman and Host 2012
- Stellmed: Presenter of Principles on the approach to Clinical Management of Head Injuries course in several centres around the Western Cape (Tygerberg, Malmesbury, Vishoek, Worcester, George) 2007 till current

**Research grants awarded:**

- R1000000 Dr B Harrington PhD (Prof AJ Vlok co-supervisor)
- R1400000 Salovum trial (Collaboration with Sweden)
- R750 000 over 4 years (Ph.D. Grant for Prof AJ Vlok, Medtronic Academia International) awarded 2014 (First payment received 2015)
- R75000 – Ph.D. Grant – Nuvasive Research Grant 2015
- R5000 – MR I.S. Walker – US Student Dissertation Grant 2015
- R15000 – Dr A Kamat, Prof AJ Vlok – Presenting at WFNS meeting, Turkey 2017
- R5000 – Prof AJ Vlok – SANS annual meeting presenter 2018

**Academic Development (funding and donations):**

Funding for the Neurosurgery Skill's laboratory sourced by Prof AJ Vlok:

- R1200000 - Skill's Laboratory room renovation grant allocated 2015 (Fisan Building, Tygerberg Campus) (Medtronic Academia Development)
- R70000000 – Hardware and equipment donated to US Neurosurgery Skills laboratory 2015 (Medtronic International Academia Division)
- R20000000 – ICU Simulators and endoscopic equipment donated to US Neurosurgery Skill's laboratory 2015 (Covidien International)
- R1200000 Endoscopic stack donation to dept Obs & Gynae TBH to develop skills - 2018

**Current Research Supervision:**

- PhD: Dr Bradley Harrington, (co-supervisor) “The role of anti-secretory factor in ischaemic and traumatic neuronal injury”
- MMed (Neurosurgery) - Dr H Humba, Dr I Walker, Dr M Fielies, Dr M Lamprecht, Dr R Grobler
- MSc thesis – Mr L Roberts
- Student Dissertations: Ms S Breedt, Mr Y Docrat, Mr D Nzama

**Past Research Supervision:**

- MMed: Dr Z Ebrahim (2017), Dr S Naidoo (2017), Dr C Steyn (2017), Dr B Harrington (2020), Dr M Jario (2020), Dr I Victor (2020),
- Student Dissertation: I Walker

**Professional Memberships:**

**Health Professions Council of South Africa**

Member no: MP0525855

**South African Neurosurgical Society**

Voted onto executive committee 2014 (Members Secretary)

Member no: VLO810

**South African Spine Society**

Member no: 232

**Medical Protection Society**

Membership no: 03/26876

**Practice number (Board of healthcare funders)**

0313009

**Health Professions Council of Namibia**

MPR02331

**College of Neurosurgeons**

Voted onto the board of the College of Neurosurgeon 2014

**Professional  
experience**

- 2000 - Conradie Hospital, Pinelands, South Africa Intern
- 2001 - Tygerberg Hospital, Tygerberg, South Africa  
Community Service – Tertiary Hospital
- 2001 - Karl Bremer Hospital, Bellville, South Africa  
Community Service – Secondary Hospital
- 2002 - Stellenbosch Hospital, Stellenbosch, South Africa  
Medical Officer
- May 2003 – Trauma, Obs + Gine, Surgery Stellenbosch Hospital
- 2002 - United Kingdom - Resident Medical Officer, Locum
- 2002 - General Practice SA
- 2003 – Ships Doctor

**Feb 2004 till Dec 2008:**

Registrar in Department Neurosurgery, Tygerberg Hospital, University of Stellenbosch.

**Jan 2009 – Dec 2009**

**AO Spinal Fellowship**

**Jan 2010 till current:**

Consultant Neurosurgeon

Head of department / division Neurosurgery from 01/04/2013

Primary surgeon involved in all spinal surgeries on neurosurgery theatre lists.

Management of all spinal outpatient referrals and clinics, managing a spectrum of trauma, degenerative spinal disorders and spinal deformities (both adult and paediatric).

Actively involved in registrar training in both Neuro- and Orthopaedic Surgery and pre-graduate training in spinal surgery principles and neurosurgery.

Regular Internal and External Examiner for MB.,ChB. IV and V year Elective Modules

Hosting of regular workshops focused at spinal training for consultants and registrars in both Neuro- and Orthopaedic surgery on a national basis

Started the Worcester Neurosurgical Outreach Program in 2011

SPMS recognition of Performance Significantly Above Expectation 2011  
Initiated a quarterly outreach to Namibia for public service neurosurgical support since Jan 2014 till current.

## **Research & Publications**

### **Ph.D. – Comparison of intrathecal and intravenous morphine for post-operative analgesia after single level spinal fusion surgery**

Supervisor - Prof A Coetzee (dept. Anaesthesiology).

Degree obtained : April 2020

### **International trials:**

- National Coordinator CRASH 3 Multicentre International trial
- Researcher CRASH 1 international trial
- Researcher BRAIN international trial
- Researcher KENAI international trial

### **Current research:**

Ethics approved:

- Value of repeat Computer Tomography (CT) in moderate to severe traumatic brain injuries in the absence of clinical deterioration. Dr M Jario, Prof AJ Vlok
- Salovum (Antisecretory factor) in patients with severe traumatic brain injury. Prof AJ Vlok
- Referral patterns to a tertiary spinal service in the Western Cape, South Africa. Dr M Potgieter, Prof AJ Vlok
- In the eye of the beholder, a study of optic nerve sheath diameter in continuous ICP monitoring. Ms D Breedt, Prof AJ Vlok
- A study in the accuracy of reporting of Computed Tomographic Angiography (CTA) in patients with proven subarachnoid haemorrhage. Dr J Finestone, Prof AJ Vlok
- The Impact of Peri-Operative Fluid Use on Haematocrit in Spinal Surgery. Dr I walker, Prof AJ Vlok
- Surgiskill, Creation and validation of a clinical skills assessment application, Dr I Victor, Prof AJ Vlok

## **Publications**

Harrington, B., Gretschel, A., Lombard, C., Lonser, R. and Vlok, A., 2020. Complications, outcomes, and management strategies of non-missile penetrating head injuries. Journal of Neurosurgery, pp.1-9.DOI:

<https://doi.org/10.3171/2020.4.JNS20122>

Seroto, P, Harrington, B, Lombard, C, Vlok A.  
The role of tertiary neurosurgical intervention in non-missile penetrating injuries of the spine. <https://doi.org/10.1007/s00586-020-06665-4>

HALDEMAN S, JOHNSON CD, CHOU R, NORDIN M, CÔTÉ P, VLOK AJ, ET AL . The Global Spine Care Initiative: care pathway for people with spine-related concerns. EUROPEAN SPINE JOURNAL 2018; 27(6):901-914.

HALDEMAN S, NORDIN M, CHOU R, CÔTÉ P, HURWITZ EL, VLOK AJ, ET AL . The Global Spine Care Initiative: World Spine Care executive summary on reducing spine-related disability in low- and middle-income communities. EUROPEAN SPINE JOURNAL 2018; 27(6):776-785.

JOHNSON CD, HALDEMAN S, CHOU R, NORDIN M, GREEN BN, VLOK AJ, ET AL . The Global Spine Care Initiative: model of care and implementation. EUROPEAN SPINE JOURNAL 2018; 27(6):925-945.

JOHNSON CD, HALDEMAN S, NORDIN M, CHOU R, CÔTÉ P, VLOK AJ, ET AL . The Global Spine Care Initiative: methodology, contributors, and disclosures. EUROPEAN SPINE JOURNAL 2018; 27(6):786-795.

KAMAT AS, GRETSCHEL A, VLOK AJ, SOLOMONS RS. CSF protein concentration associated with ventriculoperitoneal shunt obstruction in tuberculous meningitis. International Journal of Tuberculosis and Lung Disease 2018; 22(7):788-792.

KOPANSKY-GILES D, JOHNSON CD, HALDEMAN S, CHOU R, CÔTÉ P, VLOK AJ, ET AL . The Global Spine Care Initiative: resources to implement a spine care program. EUROPEAN SPINE JOURNAL 2018; 27(6):915-924.

VLOK AJ, NAIDOO SR, KAMAT AS, LAMPRECHT D. Evaluation of locally manufactured patient-specific custom-made implants for cranial defects using a silicone mould. South African Journal of Science 2018; 56(3):38-42.

WALKER IS, VLOK AJ, KAMAT AS. A double-edged sword: the effect of technological advancements in the management of neurotrauma patients. *BRITISH JOURNAL OF NEUROSURGERY* 2017; 31(1):89-93.

KAMAT AS, EBRAHIM MZ, VLOK AJ. Thoracic disc herniation: An unusual complication after prone positioning in spinal surgery. *International Journal of Spine Surgery* 2016; 10: Article 39, 4 pages.

Incidence and aetiology of traumatic spinal cord injury in Cape Town, South Africa: a prospective, population-based study  
Mr Conran Joseph, Dr AJ Vlok *Spinal Cord* 2015

Tuberculosis of the skull with associated cranio-cervical subluxation -  
*SA ORTHOPAEDIC JOURNAL* Spring 2011 | Vol 10 • No 3

Shallow-water spinal injuries – devastating but preventable *S Afr Med J* 2010; 100: 682-684.

Known primary with secondary disease: Is tissue diagnosis necessary?  
SA ORTHOPAEDIC JOURNAL Spring 2010 / Page 35

Spondylolytic spondylolisthesis: Surgical management of adult  
presentation SA ORTHOPAEDIC JOURNAL Spring 2011 | Vol 10 • No 3  
/ Page 85

The Kimberley Hospital Rule (KHR) for urgent computed tomography of  
the brain in a resource-limited environment . S Afr Med J Sept 2013  
p647-651

Role of surgery in cervical degenerative disease: A Retrospective  
analysis of the natural progression of cervical degenerative disease in  
patients on a waiting list for cervical spine surgery. Dr. A.J. Vlok, Prof  
H.B. Hartzenberg (M.Med. Neurosurgery Dissertation 2009)

## **Textbooks**

My-Spine Cervical (Chapter 4 author) (Vesuvius Publishing 2009)

Co-editor and chapter author (second edition) – Neurosurgery  
Explained: A Basic and Essential Introduction – Dr WA Liebenberg,  
(initially Vesuvius Books, now in editing for second edition - Oxford  
University Press)

MIMS general practitioner textbook: Approach to backache (2019)

## **Examiner**

College of Medicine SA (Neurosurgery) Primaries including  
Neuroanatomy 2010 - 2017 (convenor since Sept 2013)

Undergraduate Student Intern Examiner University of Stellenbosch 2010  
till current

FC(Neurosurgery) Final exams May 2015 (Observer), examiner May 2016,  
October 2018, May 2019 (Host)

Examiner FCS Intermediate Exams April 2013

MMed (Surgery) Intermediate Examiner 2012, 2013, 2014, 2015

## **Reviewer**

Regular reviewer for the following international journals:

- European Spine Journal
- SA Surgical Journal
- SA Orthopaedic journal
- Journal of Neurosurgery Central Europe
- Neurosurgical Review