

Case Report

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The Direct Anterior Approach to The Hip Joint.

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Abstract

Minimally invasive surgical techniques is an important component of modern day hip replacements. The most significant progress in the evolution of total hip replacement is that the procedure can be done with much less invasive techniques which allow the patient to recover and therefore mobilise early. These techniques require minimum handling to prevent damage to periarticular soft tissues and preservation of bone substance to the maximum extent possible, which helps conserve bone mass and avoid damage to soft tissues, which allows faster restoration of hip function.

Introduction

I had devised an Approach to the Hip Joint 'Modified Posterior Approach to the Hip Joint'

https://www.amazon.com/Modified-Posterior-Approach-Hip-Joint/dp/3330336870/ref=sr_1_1?s=books&ie=UTF8&qid=1503829887&sr=1-1&keywords=lambert+academic+publishing-modified+posterior+approach+to+the+hip+joint,in

1981, along with the mentorship of a Biomedical Engineer Dr.

Martin Elloy, PhD attached, to the University of Liverpool, UK, at a time when there were considerable reports of dislocation of the hip joint using the conventional posterior Approach as described by Austin Moore in 1957 (Ref.no.1).

With interactions with Dr. John O'Donnell of Australia, who is extremely comfortable saying that I continue to use DAA for my hip replacements, and I have been very happy with it that I cannot imagine changing to any other approach now. I developed an interest in the Direct Anterior Approach to the Hip Joint and

have used in initially in Hemiarthroplasty in a few cases with a radical change in my thinking of this Approach, which is helpful to the patient tremendously, in that there is no need to osteotomise the greater trochanter and hence avoids any complications related to the union of the greater trochanter, such as non-union or fibrous union, but most importantly prevents dislocation of the Hip Joint which was the main purpose of me devising the Modified Posterior Approach to the Hip Joint, which I had been using till today. Due to these multiple simple advantages offered by this Approach, I would not hesitate to recommend this Direct Anterior Approach to the Hip Joint to the new generation of Orthopaedic Surgeons wherever feasible. The most effective surgical approach for the Hip Joint remains controversial, as the Hip joint is likened to a motorway roundabout with plenty of different approaches and exits. There are more than 100 different approaches to the Hip Joint described in literature (Fig.no.1)

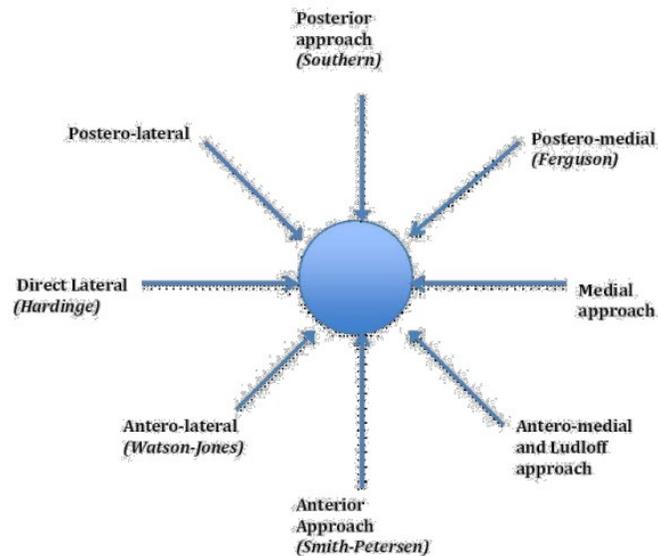


Figure 1: Courtesy:Figure reproduced with the kind permission of HiranAmarasekera(Ref.no.2),Consultant Orthopaedic Surgeon/Orthopaedic Research Fellow, PhDStudent, Warwick Medical School, University of Warwick, UK from the book Arthroplasty -Update”ISBN978-953-51-0995-

Direct anterior approach (DAA) has become popular in thUnited-states of America for pastone decade as “minimally invasive mus

cle sparing approach” The first description(Ref.no.3) of the direct anterior approach to the hip joint(Fig.no.2)

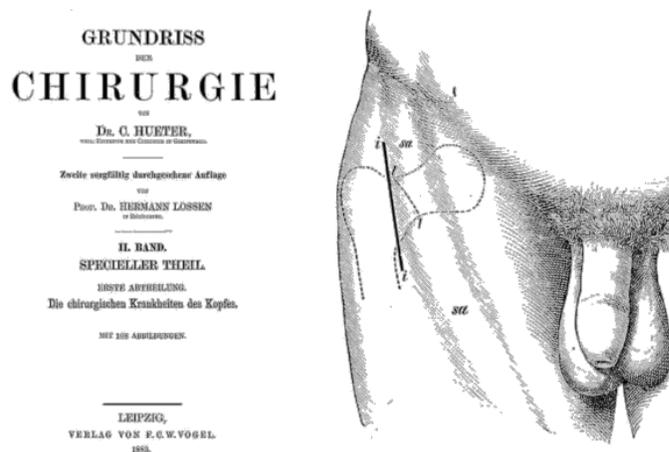


Figure 2: Hueter’s original publicationwhich provides an excellent exposure to the acetabulum, in primary or a revision total hiparthroplasty,whichIn contrast with conventional techniques, and hence direct anteriorapproaches (DAA) has gained popularity among theorthopaedic hip surgeons and patientsfor earlier recovery and mobilization.

This has progressed to such a point that some patients are able-to have their surgery doneas an outpatient procedure without any hospital admission,as mentioned in my book “HipJoint in-Adults:Advances and Developments” <https://www.crcpress.com/Hip-Joint-inAdults-Advances-and-Developments/Iyer/p/book/9789814774727> in chapter 18 as ``Total hip in a day, set-

up and early experiencesin outpatient hip surgery”,by Dr. med. Manfred Krieger and and Dr.med. Ilan Elias,Wiesbaden,FrankfurtGermany(Ref.no.4).This is achapter written wherein the Total Hip canbe done as an outpatientprocedure without any in-patient admission(Fig.no.3) on selectedpatients as a day case,without any fear of dislocation.



Figure 3: Intra-op single incision anterior approach (Courtesy: Figure reproduced with kind permission of Dr. ILAN ELIAS and Dr. MANFRED KRIEGER, Frankfurt, Germany) The Direct Anterior Approach can be helpful in

1. Outpatient procedure as in certain advanced centres in Frankfurt, Germany.
2. The Direct Anterior Approach in Hemiarthroplasty.
3. Direct Anterior Approach in Primary Total Hip Arthroplasty.
4. Direct Anterior Approach in Revision Hip Arthroplasty In fact, I

am particularly happy by its use immensely so much so that I am coming out with a small book on the 'The Direct Anterior Approach to the Hip Joint' by Lambert Academic Publishing, Germany in early 2018

Dr. John O'Donnell of Australia who uses a fracture table (Fig. no. 4) for DAA (Ref. no. 5)



Figure 4: Patient positioned for right Total Hip Replacement (Courtesy: With the kind permission of Dr. John O'Donnell, Associate Professor, Hip Arthroscopy Australia) Direct anterior hip replacement is considered as a minimally invasive surgical technique. The anterior approach for hip replacement is a tissue-sparing technique designed to follow both an intermuscular and an internervous path (Fig. no. 5)



Figure 5: The approach is both intermuscular and internervous (With kind permission Medacta, through Dr. John O'Donnell, Associate Professor, Hip Arthroscopy Australia). The blue line is the line of the approach, passing between the Rectus femoris and Sartorius, innervated by the Femoral nerve, and the TFL and Gluteal muscles, innervated by the Gluteal nerves.

This approach provides a direct visualization of the acetabulum and the anterior iliac spine landmarks to allow reference for appropriate cup positioning as it utilizes anterior intermuscular and intermuscular plane. I have tried to get accustomed to this DAA by initially as I was accustomed to the Modified Posterior Approach to the Hip Joint and by doing a few cases of Hemiarthroplasty by the DAA as shown in figure 3, and am fully convinced of the usefulness of this Approach to the Hip Joint for the younger generation of Orthopaedic Surgeons in the world, because of multiple advantages. Dr. John O'Donnell, Associate Professor, Hip Arthroscopy Australia is also the Convener and Host, Melbourne ISHA ASM 2018, and would encourage all Orthopaedic Surgeons worldwide to attend the same.

1. Moore A.T. (1957) The self locking metal Hip Prosthesis. J Bone Jt. Surg. 39A, 811.

2. Figure reproduced with the kind permission of Hiran Amarasekera, Orthopaedic Research Fellow / PhD Student, Warwick Medi-

cal School, University of Warwick, UK,

UK from the book *Arthroplasty - Update*, ISBN 978-953-51-0995-

3. Hueter C. Funfte abtheilung: die verletzung und krankheiten des huftgelenkes neunundzwanzigtes capitel. In Hueter C, *eGrundriss der chirurgie*. 2nd edition. Leipzig: FCW Vogel; 1883 pp 129-200.

4. Dr. med. Manfred Krieger and Dr. med. Ilan Elias, *Total hip in a day, setup and early experiences in outpatient hip surgery, Hip Joint in Adults*:

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