

## Report of reversed fellowship in Eritrea, 31.03 – 29.05.2005, J. Spycher

### I. Introduction

After a visit, organized by the (DEZA), to Eritrea by a small delegation of medical professionals, amongst them Prof. RP Jakob the idea initiated to provide a program of reversed fellowship between Eritrean and Swiss traumatologists, orthopaedic surgeons and OR Personnel. The objective of the program is mainly the **exchange** of expertise and practical skills to providing adequate quality health care to the trauma patient on a national level, and not the import of professional activity for a short duration or the supply of hardware and machinery.

As a first pilot step Dr. Semere Teclegiorgis and OR nurse Frtuna Wunesh from Halibet Hospital, Asmara were invited to the cantonal hospital of Fribourg, CH for a duration of 2 mths, November and December 2004. They were daily involved in all activities of the orthopaedic OR. I then had the privilege of spending 2 months in Eritrea as a reverse fellow in April and May 2005. I spent 4 ½ weeks in the public national referral centre for traumatology and orthopaedics at the Halibet Hospital in Asmara working together with Dr. Semere and 3 ½ weeks at the military referral centre, Glas Hospital, working together with Dr. Haile Mehtsun. Below is a short summary of my activities, an evaluation of the momentary situation and an analysis of potential future collaboration.

### II. Activities

The bulk of my time was spent working together with Dr. Semere and Dr. Haile in the assessment of outpatients and in the OR. We mainly focused on exchange of knowledge. I concentrated on teaching and instruction, either case-specific or on a topic where I felt there may be a lack of clinical competence, but also learnt a great deal from those 2 surgeons who have an immense experience after 25 yrs of practicing war surgery.

The remaining activities were instruction of physiotherapists and nurses for postop treatment and meeting with various people to assess interest, needs and motivation to get an adequate program with sustaining character started.

In Glas the main medical conditions we assessed were:

- Symptomatic and progressive lumbar disc herniation

- Shoulder instability

- Anterior knee instability

- Post war injuries: Non- and malunions, chronic osteomyelitis, ankylosis....

In Halibet most cases were traumatological

For details regarding operation activities see the operation statistics added below.

### Schedule:

The first block of 2 weeks I spent at Glas, then 2 wks at Halibet, another 1 ½ wks at Glas and at the end 2 ½ wks again in Halibet.

In Glas the first day was spent assessing outpatients. Then we operated throughout the day, Monday to Sunday, completed the rounds, applied casts in the evening and planned for the

following day. All in all we assessed roughly 150 patients and performed 69 surgeries of which 59 were major.

In Halibet the mornings started with discussion of the newly admitted cases and planning of the following operations. Operations were performed daily from Monday to Friday and patients were evaluated before and after the OR. Grand rounds were on Saturday morning. It being a public hospital the working hours were substantially less.

#### Training and Instruction:

Specific topics of teaching and instruction in Glas and in Halibet were:

- Surgical anatomy
- Perioperative antibiotics
- Management of acute and chronic septic arthritis
- Principals and techniques of plate fixation
- Postoperative treatment and rehabilitation

Glas: Dr. Haile expressed the specific desire for instruction and hands-on teaching for 3 pathologies mentioned above: Disc herniation, shoulder instability and ACL reconstruction. We performed a series of those operations of which I did the first one and assisted the rest to Dr. Haile and Dr. Makkonnen. The remaining cases were done by them or in teamwork, with the exception of specific cases like an acetabulum fracture or chronic monteggia fracture-dislocation. All the cases were regularly discussed and analysed.

Halibet: All operations at Halibet were assisted to Dr. Semere and his team with the exception of a C6/7 dislocation with paralysis and a double muscle flap for coverage of a distally exposed tibia which I did myself. Teaching was case specific and additional topics of importance were: Proximal femoral fractures (choice of implant and operative techniques) and fractures of the humerus (proximal, shaft and distal; conservative versus operative, choice of implants, operative techniques).

### III. Assessment of the situation of health care for the trauma patient in Eritrea

Most of the following information has been taken from the Eritrea Demographic and Health Survey, 2002.

The Ministry Of Health is operating 23 hospitals, 52 health centres, and 225 health stations, most of which are government owned (WHO, 2002a). When compared with the data at independence (1991), these figures indicate a significant increase in health services; the number of hospitals grew by about 50 percent, while health stations and health centres grew by more than 100 percent. The substantial growth in the number of health stations and health centres indicates a great effort on the part of MOH to develop and expand basic health care services at the local level, particularly to people living in rural areas. In terms of health manpower, significant improvements have been made in both recruitment and training. For example, between 1995 and 2000, the number of physicians and nurses increased by 60 percent and 107 percent, respectively.

Although significant efforts have been made to improve the health care system since independence, there remain some deficiencies both in coverage and quality. Health care services are still not adequate for the population, a problem common to most African countries. In 2000, the ratio of population per physician was 13,144, while the ratio of population per nurse was 2,804 (WHO, 2002a). Another problem is the uneven distribution of medical facilities. There is a high concentration of health facilities in urban areas, especially in the capital city, Asmara. Traditional healers are still consulted in Eritrea, especially in the

rural areas. Roughly 80% of the population lives in the countryside, though lately a rising rural-urban migration is taking place.

Thus, the two main factors that influence the quality of health care for the trauma patient are: Shortage of skilled medical personnel, especially in rural areas and limited means of urgent access to a trauma-competent centre. I regard the former as the prime factor and believe that the training of general physicians, general surgeons and health centre nurses in the basic principles of fracture treatment, and in knowledge of which traumatic conditions require referral to a competent centre would, in a grand scale, improve the quality of care for the trauma patient nationwide.

Nonetheless, considering that there are really only 3 practicing orthopaedic and musculoskeletal trauma surgeons in the country (2 in public hospitals and 1 in the military hospital) – not including surgeons in private clinics – the importance of specific training in special or more complicated trauma surgery and treatment of posttraumatic disorders cannot be underestimated and in my opinion requires adequate support.

#### V. Future needs and potential involvement:

Recalling the objective of this program, namely to exchange knowledge and teach so that the quality of health care for the trauma and orthopaedic patient in the country would improve I esteem two subject matters of utmost importance:

- Training of local medical staff from nationwide regional and district centres in the basics of primary trauma and orthopaedic care
- Training of local surgeons in special operative and conservative care of injuries, posttraumatic disorders and orthopaedic pathologies

The reversed fellowship fully assesses the needs of the latter. Direct training with hands-on case specific teaching is, if both sides are highly motivated to improve performance and knowledge, one of the most efficacious ways to reach that goal.

Other future possibilities to enhance that part of the program would be:

- working together with the health ministry on a postgraduate program in trauma and orthopaedic surgery for graduates of the recently opened medical school. The first students will be graduating in 4 years.
- Financing a longer training period, e.g. 1 yr, in a university hospital abroad for a young and motivated local surgeon, in the sense of an extended fellowship. A 1 yr program like that should allow for the possibility to attain a diploma in trauma surgery, the trainee in return should be bound by contract to serve in the public health sector and in training programs of local regional staff for a certain number of years.

The first above mentioned objective, which aims at improving nationwide primary trauma care services, has in my opinion a larger impact on the general health status of the population and would thus require appropriate attention. Tackling such an issue, though, would only be possible through direct organization and management by the ministry of health, since it would imply involving as many locally skilled staff in all regional centres as possible and infrastructure, transportation and coordination would have to be guaranteed. And also, simply because it's really a matter of importance for the national health care system. I would guess that 30 – 40% of all health problems in the young and in the working adults are related to trauma (this report being a reflection of my personal view, I will allow a non-academic assumption like the mentioned percentage- with openness to any corrective information...). A nationwide program of that sort could very well be organized together with reversed fellows, or a team of local and foreign professionals. Target personnel would be: General Physicians

and nursing staff (health officers and nurses) in rural areas, General Surgeons in regional centres, ER physicians and nursing staff in all central and regional hospitals and OR personnel.

Dr. Danilo Ghirelli, an orthopaedic surgeon from Italy, based in Barentu Hospital, regional centre of the western lowlands is working on training local staff in that region and would be a very suitable partner for collaboration within such a program. He is working for the Italian Cooperation (government-run development aid program).

All in all, improvement of primary trauma care nationwide should be under direction of the ministry of health.

## VI. Personal summary

I spent 8 intensive working weeks in Eritrea and came back largely enriched, personally and professionally. I am greatly indebted especially to Dr. Haile Mehtsun and Dr. Semere Teclegiorgis for their support and unreserved hospitality and good friendship.

I would not claim that our work during those 8 weeks perfectly fulfils all expectations put on a program for adequate and sustainable development, but nevertheless believe it was a successful collaboration, which cleared up uncertainties and put light on other aspects we may not have considered before.

The work with Dr. Haile and the Glas Hospital needs little re-thinking and provides, as it is, ample opportunity for both sides for exchange of knowledge and sustainable development.

The work in Halibet Hospital is complicated by a few factors that are hard to attend to by Dr. Semere or by individual efforts and require more collaboration with the ministry of health and hospital management to allow for more success in attaining a sustainability and competent clinical independence.

As for the improvement of primary trauma care on a national level a whole new program would need to be worked out together with, and under supervision of the Ministry Of Health. The willingness and motivation to put together such a program should come from the MOH. To ensure a sustainable and efficacious outcome of such a program, I deem it essential that the government provides substantial contribution, be that in form of financing, organizing and/or providing infrastructure, personnel, transportation, housing... In general, I personally don't believe in the sole success of gifts.

## Operation statistics Halibet and Glas 04.04. – 28.05.2005

<i>Operation</i>	<i>Halibet</i>	<i>Glas</i>	<b>Total</b>
Laminectomy (nr. of cases)		8	8
Shoulder stabilization		7	7
Sequestrectomy, Treatment of Osteomyelitis	3	4	7
Arthrotomy, débridement, lavage for septic arthritis	4	3	7
IMN or plating tibia	6		6
ACL Repair		5	5
DHS or condylar plate for (reversed) pertrochanteric and subtrochanteric fracture	5		5
Nonunion forearm		4	4
Nonunion tibia / fibula	2	2	4
IMN or plating femur	3	1	4
IMN humerus	4		4
ORIF distal humerus	2	1	3
ORIF Lisfranc fracture dislocation	3		3
ORIF supracondylar fracture femur	2	1	3
Malunion distal radius		2	2
OT prox tibia		2	2
Screw fixation femoral neck fracture	1	1	2
ORIF forearm fracture	1	1	2
Tension band patella fracture	2		2
Subacromial Impingement, AC pathology		2	2
Extensive skin and soft tissue débridement	2		2
Removal of exostosis		2	2
Excision of soft tissue mass		2	2
Nonunion femur		1	1
Malunion femur		1	1
Malunion tibia / fibula		1	1
Malunion humerus	1		1
Malunion tibial plateau		1	1
Mal- and non-union patella		1	1
Arthrodesis knee		1	1
Baker cyst excision		1	1
Radioulnar stabilization		1	1
Nonunion elbow		1	1
Osteosynthesis acetabulum fracture		1	1
ORIF for perilunar dislocation	1		1
Carpometacarpal stabilization		1	1
Release of carpal tunnel		1	1
Separation of syndactily		1	1
Arthrolysis elbow (soft tissue release, Kashawagi, removal of foreign bodies)		1	1

Removal of foreign bodies		1	1
Hardware removal		1	1
Tendon transfer hand		1	1
Meniscus cyst		1	1
Flap for soft tissue defect distal tibia	1		1
Amputation hand	1		1
Amputation arm	1		1
Ankle fracture	1		1
Amputation below the knee		1	1
Discectomy and C6/7 fusion for dislocation	1		1
Stabilization of knee dislocation	1		1
Posterolateral reconstruction knee		1	1
ORIF clavicle fracture		1	1
Nonunion humerus	1		1
ORIF tibial plateau	1		1
Hemiprosthesis prox femur	1		1
	51	69	120