WHO COLLABORATING CENTRE

Report of TATCOT Activities October 2004-November 2005

1 Introduction

During the academic year which started in October 2004 up to July 2005, the centre was actively involved with its activities which are mainly in education, training, provision of prosthetics and orthotics services and a number of activities as outlined on the Terms of Reference of July 2002. The centre has continued enrolling students into its different programmes, i.e. Lower Limb Orthotics or Prosthetics Certificate Course, (LLOT/LLPT); Wheelchair Certificate Course (WTTC); Diploma Course in Orthopaedic Technology (DOT) and BSc Degree Course in Prosthetics and Orthotics. Apart from the long list of applicants from within the continent, we have continued to receive applicants from Asia and Latin America.

1.1 Students graduated as of July 2005

The main and core course still remains the Orthopaedic Technologists (Cat-II) as it was the initial objective of establishing the centre's which was meant to qualify individuals who will work independently in most of the set-ups of health care system in developing countries. A total number of three hundred and sixty two (**362**) graduated at different levels and specialities at TATCOT from the time when courses were introduced as indicated on Table I.

	DESCRIPTION OF THE COURSE	COURSE STARTED	TOTAL NUMBER GRD UP TO JULY 2005		TOTAL NUMBER
			MALE	FEMALE	
1	Diploma Orthopaedic Technology	Oct-81	230	23	253
2	Certificate LLOT/LLPT	Oct-92	55	6	61
4	BSc Degree Prosthetics/Orthotics	Oct-00	12	3	15
3	Certificate Wheelchair Technology	Oct-00	28	5	33
	Total Number		325	37	362

Table I

2 Activities implemented

During the past academic year, the centre strived to implement the following activities as spelt out in the Terms of Reference.

2.1 Improvement and standardisation of training and education

The curriculum for diploma course in Orthopaedic Technology, Lower Limb Prosthetics/Orthotics and Wheelchair Technology were all reviewed in August -2003 and August-2004 and the BSc Degree Course is on review and expected to be completed before the end of the year. The main areas which were reviewed in both curricula are as follows:

- Re-structure the curriculum from **term-system** to **semester-system** which is a pre-requisite for all programmes under higher learning institutions under the guidance of **Higher Education Accreditation Council (HEAC)** of Ministry of Science, Technology and Higher Education of Tanzania:
    - This **semester-system** has an added advantage in that it provides an opportunity to attend only those modules

desired by an individual and not necessarily the entire course.
    - Each Semester is comprised of eighteen (18) weeks of teaching, one (1) week of study break and three (3) weeks of examinations.

- The curricula are now more cost-effective and facilitate combination of classes for modules which are the same.

- The students are introduced to patient related clinical practice early, i.e. demonstrations are done in the first year and more exposure to patient's evaluation, assessment and designing in the second year.

- Review of Lower Limb Orthotics/Prosthetics, Wheelchair Technology and Diploma Course in Orthopaedic Technology has been reviewed to incorporate ISPO/WHO guidelines in training in different categories, recommendations from evaluators and external examiners. The main areas of change were to adopt modules which are independent, reduce practical tasks related to components, increase number of hours for patient work, expose students in early years to patients clinical practice, outline clearly aims, objectives, methods of teaching and resources.

- Review of the BSc Curriculum is expected to be finalised in December 2005

- The Diploma Course in Orthopaedic Technology and Wheelchair Technology Course have been inspected and gained recognition of ISPO from June 2004 – July 2009 and February 2005 – March 2009 respectively.

- In November 2005 another team of ISPO experts came to inspect the BSc Degree Course in Prosthetics & Orthotics (Cat-I) and we are waiting to have the result of their work.

2.2 Harmonisation of technical orthopaedic services, training and education programmes in the region

In June 2003, the school managed to form a Joint Prosthetics-Orthotics East African Committee which outlined the following Terms of Reference:

- Harmonise the education and training programmes in orthopaedic technology
- Advise on the quality of education and training programmes and service delivery in orthopaedic technology
- Advise the government on recruitment, professional advancement and scheme of service in orthopaedic technology
- Coordinate and disseminate information related to development, technology advancement and adaptation of technology to all stake holders
- Advise on the formation of the East African Association of Prosthetists and Orthotists
- Organise seminars and conferences

The members serving in the committee are the Provost of Kilimanjaro Christian Medical College (KCM-College)-Tanzania; Principals of Kenya Medical Training College (KMTC)-Kenya; Head of Orthopaedic Department (KMTC)-Kenya; Orthopaedic Technologists Training School in Mulago-Uganda; Orthopaedic Technologists Training School in Moshi-Tanzania;

two representatives from each of the schools and one representative from each Ministry of Health.

2.2.1 Achievements

Since the establishment of the Committee, the following have been achieved:

- There have been six meetings held of which two were held in each of the country.
- The East African Association for Prosthetists and Orthotists was founded on 9th November 2004 and the following were elected as members of the Executive Committee:
    - Mr. D. Kochumba - Kenya - Chairman
    - Ms. L. Manseri - Tanzania - Vice Chairman
    - Mr. L. Mtalo - Tanzania - Secretary
    - Mr. J. Ondiege - Kenya - Vice Secretary
    - Mr. E. Kalanzi - Uganda - Treasurer

- A Pan-African Wheelchair Builders Association was founded in Lusaka Zambia on 29th August 2003 during the 3rd East and Southern African Wheelchair Congress and the following were elected as members of the Executive Committee.
    - Mr. D. Mkwasa - Zambia - Chairman
    - Mr. Y. Ezekiel - Tanzania - Secretary
    - Mr. H. Seifert - Kenya - Treasurer

- A critical analysis of the training in all the three schools has been made with detail recommendations on areas for improvements to the schools and higher authorities. Among others the weaknesses were such matters as lack of qualified teaching staff; poor quality of practical teaching; poor infrastructure; lack of essential tools, equipments and machines; unnecessary topics and subjects; insufficient time allocated to practical and field attachment; lack of students supervision; lack of clinical team approach; high number of enrolled students vis a vis teaching staff.

2.2.2 Projections for future

The projections for future are to:

- To carry out a survey on the need of technical orthopaedic services within East Africa
- To have an East African Certificate of Registration and Recognition of professionals
- To be represented in appropriate committees of the East African Community
- To conduct a conference in spinal orthotics as one of the specialities where there is deficiency in knowledge and skills
- To affiliate with other international professional organisations
- To re-visit the justification of the need of having an Orthopaedic Technology School in each country

2.3 Practical implementation of multidisciplinary strategies within CBR

A position paper of 1999 by WHO/ISPO was revised at a meeting in Lyon, France 2003 and has been approved by WHO and published in April 2004 in the ISPO Journal, Prosthetics and Orthotics International. It is intended to use the training programme for CBR which has been developed by VIETCOT and follow up on its impact on the service following the

experience of VIETCOT. Otherwise there has not been any activity carried up to-date.

2.4 Testing of appropriate prosthetics and orthotics components

The field and mechanical testing of lower limb prostheses as reported in the ISPO journal, Prosthetics and Orthotics International, in August 2004 Vol 28 No 2 by JS Jensen and W Raab. The conclusions on the results of the "Clinical field testing of trans-femoral prostheses technology using resin-wood and ICRC-polypropylene feet" were that:

- Proper craftsmanship which was due to a combination of acceptable fit, adequate alignment, socket wall adequacy and leg discrepancy was 71%.
- The failure rate of prosthetic system with major interventions in view of a need of new socket, knee, foot and prosthesis was 32%. This high rate was mainly due to fixation and locking of the knee axis which needs to be improved.
- The other interesting result was:
    - High patient satisfaction 92%
    - High patient compliance 98%
    - Few non-users 2%
    - Walking distance > 1 km 92%
    - Discomfort 11%

The researcher concluded that the above were benchmarks for trans-femoral prosthetics, which ISPO believes represents acceptable standards.

2.5 Cost scheme

Mr KW Temba attended a seminar on costing in Senegal in June 2005 and it is envisaged to adopt the costing protocol as outlined by ISPO.

2.6 Outcome measurement

Mr ECP Mosha is visiting Malawi, Zimbabwe and Zambia to follow-up the former trained Orthopaedic Technologists with specific objectives of evaluating the impact of the training which includes quality of service provision, cases attended, common orthopaedic pathologies, recognition of professionals, scheme of service, establishment of service facilities etc.

The school intends to extend the outcome measurement to more countries as far as funds are available.