CHAPTER 8.11

Limb Lengthening and Reconstruction Surgery

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Distraction osteogenesis is an innovative procedure developed by G. Ilizarov in the middle of last century for the management of recalcitrant non-union and severe deformities. The procedure was introduced to Italy in early 80's before subsequently disseminated to the rest of the world. Distraction osteogenesis was first performed on Malaysia in 1988 when Dato' Dr K.S. Sivananthan lengthened two tibias and one femur with Ilizarov external fixator. In 1991, the first Ilizarov workshop was organised by in Kuala Lumpur were a few experts including Dr R. Cattaneo and Dr D. Paley were invited to train our local surgeons on the procedure. Subsequently, a group of academic staffs from University

Radiograph of showing left tibia lengthening (during and after the procedure) for an 11-year-old boy using Ilizarov external fixator (with permission of Dato' Dr K.S. Sivananthan).
Malaya visited Lecco, Italy and initiated the Ilizarov service in the institution headed by the late Prof Dr Subir Sengupta. Throughout the 90's and early this century, Dr M. Catagni has been invited to visit many hospitals in this country to provide guidance and surgical assistance for many local surgeons.

In 2000, the first basic Ilizarov course was organised by University Malaya Medical Centre with Dr Juanito Xavier from Philippines as the invited guest speaker. On the second year, additional training session was added for the operating theatre nurses. Both basic and advanced Ilizarov courses were organised in University hospitals and major public hospitals in Seremban and Kuala Lumpur and Klang. Primary indications for surgery included congenital or acquired deformities and post-traumatic non-union with or without bone loss. In order to coordinate training programs among various ASEAN nations and improve communications between the regional experts, ASEAN ASAMI was formed by a group of Ilizarov surgeons from Malaysia, Philippines, Singapore and Thailand.

With time, indications for Ilizarov surgery expanded to include correction of soft tissue contracture and symptomatic / unstable joints. Advanced forms of unilateral external fixator were used for limb lengthening especially for the femur bone. In addition, acute correction of long bone deformity either in isolation or in combination with Ilizarov surgery was also being performed for more selected limb deformities. In 2004, the Limb Lengthening and Reconstruction Surgery (LLRS) interest group was formed under the Malaysian Orthopaedic Association (MOA). Since then, MOA has been
supporting many types of training program in severe trauma, complications of trauma and limb deformity correction.

With increasing number of patients being treated with Ilizarov external fixator, complications of treatment started to surface. Subjects on rehabilitation and prevention of complications were introduced into the training courses. Advances in the designs of internal fixation allowed selected deformities to be treated with acute correction. In order to provide a more comprehensive treatment for the patients, University Malaya Medical Centre organised the first Limb Deformity Correction Course in 2009.

In developing nations, it is not uncommon to come across severe or neglected limb deformities. The LLRS interest group of MOA is playing an important role to provide adequate training for surgeons in this region. The interest group may also provide a platform for clinicians to meet and organise both clinical and basic research on new methods of bone regeneration or reconstruction. Over the last few years, we have observed increasing number of course participants and fellowship trainings coming from other parts of Asia Pacific region, Middle East and Africa. It is hoped that LLRS interest group of MOA can continue to play a role in the promotion and development of advanced trauma management and limb deformity correction surgery for the benefit of our patients.