

# **Economical set up for foot & ankle practice for underdeveloped countries**

**Key words:** foot & ankle, underdeveloped countries, centre of excellence

## **Abstract:**

Elements of ideal but economical foot & ankle set up for developing countries are a consulting & waiting room with dedicated space for dressings & radiography. Set up needs to have facilities for weight bearing radiographs & foot lab. Foot lab shall have gadgets like monofilament, Biothesiometer, vascular Doppler, Haris met & foot scan if possible. The team shall consist of dressing, foot lab & radiography technicians, medical social worker & counsellor. The medical care team shall have on panel services of diabetologist, general & vascular surgeons, plastic surgeon, physiotherapist, orthotist & internal physician. This team shall run various clinics like adult, paediatric, sports & diabetic foot & ankle clinics. Clinic must take up events for social obligation & must brand itself through the knowledge spreading events as well as through the efforts of prevention.

## **Challenges faced for foot & ankle practice in underdeveloped countries:**

There are huge numbers of suffering foot & ankle cases in under developed countries. These cases are either mismanaged or neglected. This is due to the fact that foot & ankle orthopaedics has yet to establish itself as the specialty of orthopaedics in developing countries. The other reason could be lack of knowledge about the availability of foot & ankle solutions in society as well as in medical population<sup>1</sup>! Lack of availability of specific implants & high end equipment also adds to these problems.

## **What are the root reasons for these problems?**

Underdeveloped country population has now evolved from bare foot walking to utilization of fancy footwear. Like western world footwear does create unique foot & ankle issues in underdeveloped countries. There also is a steep rise in sports population in developing countries. These competing sports population of underdeveloped countries has also contributed a rise in sports related foot & ankle problems. Diabetes is now no more a disease of upper class. It has similar or more prevalence in underdeveloped countries like in the developed countries. Typical issues of diabetic foot now require a worthy attention by medical fraternity even in developing countries.

### **Is there a way out?**

Time has come where orthopaedic surgeons from developing countries need to look at west to get foot & ankle education. Speciality can only be developed by such enthusiastic trained orthopaedic population from underdeveloped countries<sup>1</sup>. Their responsibility is to set centres of excellence of foot & ankle care in their own, underdeveloped countries. Such centres of excellence would deliver comprehensive care under one roof. These centres have an obligation not only to treat ailments but also to spread awareness about availability of such advanced foot & ankle care solutions amongst the population. Looking to limited resources availability in underdeveloped countries, setting up of such a set up needs to be economical in nature & should still serve the aims & objectives.

### **Elements of economical foot & ankle set up**

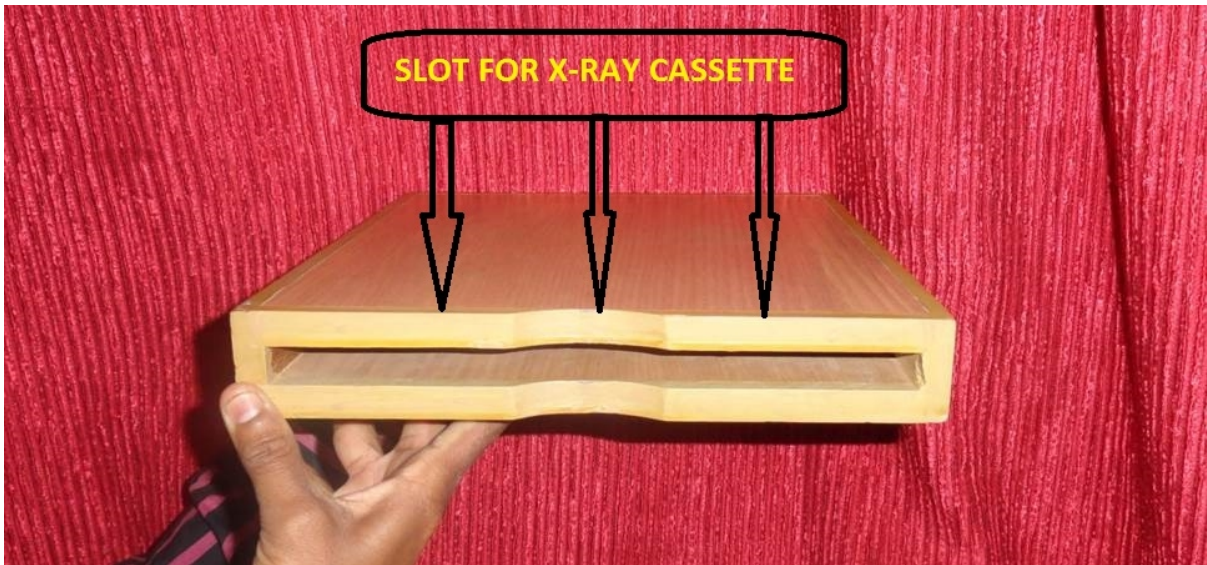
Foot & ankle set up in underdeveloped countries needs to be self-sufficient but comprehensive. A consulting room of 10x12 feet may work well. There needs to be X-ray view box, a computer & a low height couch for patient examination. A walking space to examine gait inside the consulting room is a must. Adjoining to the consulting room there should be a waiting & reception space of about 8x10 feet where patients & relatives are well attended by receptionist. A foot lab & dressing cum X-ray room are essential part of such a set up. The space required for both is approximately 300 square feet. All tables in foot lab as well as dressing room should be of low height. A portable X-ray unit (60ma) would suffice the need. Special X-ray stand & wooden cassette holder are required

for taking weight bearing X-rays (fig.1 & 2). These could be easily prepared by a carpenter at the cost of about 12000-15000 INR. Dressing room can have a small partitioned area of 4x3 feet for X-ray developing. Digitalization of X-ray could be done in next phase where console can be kept in consulting room to avoid duplicating cost of air-conditioning.

(Figure 1: Stand for weight bearing X-rays with a slot for X-ray cassette)



(Figure 2: Wooden box for weight bearing X-rays for foot)

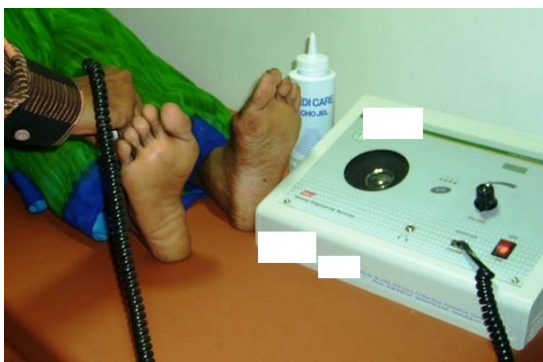


Foot lab should have equipment like Biothesiometer(fig.3), hand held Vascular Doppler( fig.4) & Harris met(fig.5). These are essential for diagnosis of neuropathy, assessment of vascular status & assessment of plantar pressures respectively.

(Figure 3:Biothesiometer to detect neuropathy)



(Figure 4: vascular Doppler to detect vascularity)



(Figure 5:Harris met to detect plantar pressure)



Together these gadgets will cost less than 75000 INR. These facilities should be erected in such a manner that single technician can run all activities like foot lab, dressing & radiography.

Foot & ankle centre needs a space of about 500-600 square feet & can be erected with investment of maximum 4, 00,000 INR. It can be on any floor provided good elevator facility is available. Centre is run by maximum two trained staff. The running cost of centre should come to less than 75,000 INR per month. Surgeries could be done at any available bigger set up in vicinity. In operation theatre for foot & ankle surgery a mini saw & burr drive is a must. Foot & ankle instrument drum set may be carried by a surgeon which must consist of some specialized instruments like lamina spreaders, Hintermann retractor & a set of mini osteotomes, chisel & gouges. Cost of all may be up to 25000 INR.

### **Activities by foot & ankle set up**

Over & above patient care activities, such foot & ankle centres in under developed countries need to work extensively in the area of prevention. Centre should join hands with medical social workers & non-government organizations (NGO) for such social cause. Programs of social obligation consist of educating masses in the area of special foot care in diabetics. Education is aimed at prevention of amputations in diabetics with the help of specially designed programs.

Centre can also educate sports population in the area of proper foot wear selection & periodic evaluation of footwear. Such a centre shall run specialized diabetic & sports foot & ankle clinics. In India foot & ankle clinic came up with a novel concept of 'Foot School' which is an educational & interactive workshop of two hours where foot & ankle problems, its solutions, myths & realities are discussed by experts through the audio-visual media<sup>1</sup>.

References:

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