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CLUB FOOT.*

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In order to appreciate properly the problems which present themselves in dealing with club-foot, it is necessary that we have an intimate knowledge of the normal anatomy and architecture of the foot. The foot has been aptly described as a tripod having one point of support at the heel and two in front. In the skeleton the longitudinal arch terminates behind in one bone, the oscalcis, but as it proceeds forward the arch widens, so that in front it terminates in the five meta-tarsal bones, and rests chiefly upon the first and fifth. Transverely each foot has a half arch. When the feet are brought together, so that their inner borders are in contact, there is thus formed a complete arch whose extremities are found at the outer borders of the feet. Thus the two feet are complimentary the one to the other, and when brought together so that their inner margins are in contact there is a dome shaped space covered by two arches. The weight of the body in standing is transmitted through the leg to the astragalus through which it passes chiefly to the oscalcis, as this bone lies almost directly in the line of transmission of the body weight. The downward pressure, however, falls upon the inner side of the oscalcis. The astragalus is so placed in regard to it that it tends to roll the foot over upon its inner margin, the sustentaculum tali having no direct support. In walking, however, as each foot is placed upon the ground there is an outward impact which makes necessary the support which is found at the outer margin of the foot. The continued existence and normal condition of these arches are necessary for free, graceful and easy movements. They are maintained in position partly by the form of the bones, partly by ligaments which act as tie-beams and more especially by muscles. Behind, the longitudinal arch rests upon the tubercle of the oscalcis, the rest of the bone not coming directly into contact with the ground. The head of the first meta-tarsal also makes direct contact, while the fifth meta-tarsal has its head and base in contact with the ground.

The most important ligaments which assist in supporting the arches are the inferior calcaneo scaphoid, the two plantar calcaneo-cuboid ligaments and the various slips of the tendon of the tibialis posticus as they pass through their attachments to the different tarsal and meta-tarsal bones. The plantar fascia also acts as a powerful support to prevent spreading of the pillars of the arch. The chief muscles which support the arches in their normal condition are the tibialis anticus, tibialis posticus, flexor longus digitorum, flexor longus hallucis and peroneous longus.

There are no immovable piers to prevent separation of the extremities of the arches, hence the work of maintaining them in their normal condition falls upon the ligaments and muscles chiefly. In the skeleton the parts of the bones above named come directly into contact with the ground, and the work of holding the foot in its position falls chiefly upon the muscles. The astralagus, the only bone of the foot which receives the whole weight of the body at any time, is so placed that

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