any disposition of that part, even when no structural change is apparent in it, to occupy the room provided. The sock may easily cause sufficient pressure to prevent this, and the best plan is to cut a hole in it, in that way setting perfectly free the great toe, which may be clothed with a few turns of bandage tied around. In time, socks may be substituted having a straight inner line, or, better still, a separate stall for the great toe. The invitation to occupy the space provided in the boot must also be kept open; the leather must not be allowed to fall in, but be frequently pressed upwards, and may, when the boot is not in use, be supported by wool stuffed within. Better still, of course, is the use of a well-made boot-tree. More generally the loss of the power of voluntary action of the flexor muscles is the explanation why the great toe shows no disposition to return to its proper place, and it is with difficulty that this power can be restored. The best way to practise the movement is with bare feet; the assistance of the eye in the attempt to do it is very great. In time the habit of walking with firm pressure of the great toe against the ground in every step becomes even automatic. Given sufficient patience and determination, and it is surprising how bad a condition may be removed, and perfect recovery of outline and of function attained by these means alone. Of course, all this holds good in less degree in proportion to the amount of structural change in the joints. It is important, I should add, that, in walking, the feet should be directed forwards, not everted when, as already stated, the action of the flexors is impeded.

The connection of the deformity described by Mr. Davies-Colley with flat-foot arose at the Clinical Society's meeting. I recognise with him that generally or frequently they are not found together. It is rather in cases where the long flexor muscle consents, so to speak, to entirely suspend its functions that the additional deformity occurs. In such cases the bowstring or tie-rod effect (as I have called it) of the long flexor is lost, and the arch sinks for want of the persistent bracing which vigorous action of that muscle affords.

STIFFNESS OF THE GREAT TOE IN ADOLESCENTS.

By J. M. COTTERILL, M.B., F.R.C.S.E.,
Assistant Surgeon, Edinburgh Royal Infirmary.

CONSIDERABLE doubt and difference of opinion have been expressed by various surgeons as to the precise pathology of this condition, which consists of an apparent flexion of the great toe, accompanied by stiffness, and frequently by pain, in its metatarso-phalangeal joint. There seems to be no mention of the subject in any standard work on surgery, but I do not consider it a rare condition; for instance, I have seen three cases during the last month.

Mr. Davies-Colley, in a paper read before the Clinical Society of London, is reported to have attributed it to one of two causes; either (1) injury to the joint followed by contraction, or (2) pressure of short rigid boots upon an abnormally long great toe. Rheumatism, gout, contractions of tendons and ligaments, are amongst other causes suggested by various authorities. Mr. Symonds says: "It occurs in young boys, especially those with flat feet. Some of the boys had a long great toe." The general consensus of opinion seems to have been strongly against the idea of flat foot being an important factor. Mr. Davies-Colley "did not think flat foot had much to do with it"; while another speaker stated that this deformity was unknown in barefooted races, though flat-foot was common with them.

I am convinced that most, if not all, typical cases are dependent upon a combination of flat foot (or a tendency to it) with rigid and short boots. Flat foot alone will not produce it; ill-fitting boots alone will not do so; it requires a combination of the two. A short boot might perhaps set up irritation in the joint, but will not cause the disarrangement of parts peculiar to this disorder. The process, then, I take to be as follows: The patient has a short, shallow, and rigid boot, which firmly grasps the toe, making it an absolutely fixed point. Given, then, the condition of flat foot, or even that of an undue laxity in the ligaments which should support the instep, the patient on walking causes depression of the proximal end of the first metatarsal bone. This necessarily alters the relations of the structures at the distal end of the bone; that is at the metatarso-phalangeal joint, as follows: (1) The articular cartilage of the metatarsal bone is uncovered on its dorsal aspect, as would happen in strong flexion of the toe (this I have verified on a good dissected specimen); (2) the dorsal portion of the capsular ligament is at the same time put severely on the stretch. These fibres do not at any time admit of great movement of the toe in flexion, and the pain referred to the part, and subinflammatory changes taking place in it are, I believe, amply explained by these two circumstances. I need not remind any practical surgeon of the severe pain caused by the continued stretching of ligamentous structures.

In the early stages the only symptom is slight pain, referred to the dorsal aspect of the joint (as one would expect), and increased on movement. A little later one finds swelling of the soft parts, or of the bone itself, with redness and inflammation. This may go on to general involvement of the joint, with more or less complete fibrous ankylosis in the distorted position, and contractions of plantar ligaments and muscles. Not infrequently in old-standing cases there appears to be an atrophic condition of the parts concerned, rather than an increase in their size. It is now easily explained why barefooted races are exempt from this disorder: the element of the fixed toe is wanting. The apparently abnormal length of the great toe sometimes noticed is caused by the lengthening of the inner side of the foot by the conversion, more or less complete, of the arch of the instep into the straight line of flat-foot. It, moreover, may occasionally happen that the inflammation caused by the deformity, existing as it does in close relation to the epiphyses of young and rapidly growing bones, stimulates them to an increased growth.

Mr. Davies-Colley suggests the name "hallux flexus." I must beg to protest against the adoption of this term, as, if my pathology be correct, it implies a misconception of the truth: for it is not in reality a flexion of the hallux, but of the metatarsal bone. I would suggest the name "hallux rigidus," as free from the above objection.

Rheumatism and gout have, I believe, nothing beyond an accidental relation to this disorder.

In confirmation of the views expressed above, it must be borne in mind that "hallux rigidus" always occurs in young growing people, who are constantly on their feet—in short, the very class which supplies nearly all our cases of flat-foot. Another, and to me, at least, a most convincing argument, is that I have never failed to cure any case of early disease (that is, before ankylosis) by taking proper means to support the instep.

In more advanced cases, where the pain is severe and swelling considerable, fomentations, rest, gentle support with light splints, and other such means will suggest themselves. When the more severe symptoms have responded to this treatment, the important point is to keep up the instep.

In the third and most advanced set of cases, where firm ankylosis is present, with contractions of muscles and ligaments, little, if any, real improvement can be expected from blistering, tenotomy, and the like; while the routine practice of using splints for an indefinite period is, as might be expected, merely palliative, and as a cure is as unsatisfactory as it is irrational. The proposal made by Mr. Davies-Colley is probably the correct one, namely, to excise the proximal half of the first phalanx; and I should treat the case in such a way as to ensure a certain amount of movement in the new joint.

REMARKS ON THE TREATMENT OF QUINSY, ESPECIALLY IN INFANTS.[1]

By W. E. GREEN, M.R.C.S.

THE subject of quinsy is one which has had a special attraction for me for many years, on account of its painful nature, its frequent recurrence in the same individual, and the rarity with which one was able to abort a case, or do more than wait until Nature came to the relief about the ninth day, or we were able to shorten the sufferings by the knife, often a most difficult matter, owing to the impossibility of opening the mouth. We were not idle even then, the treatment often commencing with free scarification of the tonsil or a blister behind the ear, and steam inhalations, while drugs of many kinds were used, of which aconite was the favourite, and was followed or given either with chlorate of potassium, perchloride of iron, or bark, and, to promote suppuration, one-tenth of a grain of calomel every hour. Even with these heroic procedures, we rarely cut short a case.

In 1875 I filled up a return on the subject, issued by Dr. Brunton in the *Practitioner* (this being one of the first attempts at collective investigation of disease). It was not until the following year, when, in talking over the subject with my cousin, the late Dr. Maund, he told me he found guaiacum give more relief than any other drug. From that time I have nearly always used this drug, but have not found the desired result from it alone. Then I was led to give aconite with it, and have found this treatment increasingly efficacious; but by experience have come to the conclusion that it is better to give the drug more and more frequently, until at the present I am of opinion

[1] Read at the Ryde meeting of the Isle of Wight District of the British Medical Association.