

Methods for

Measurement and recording for orthopaedic footwear

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- British Orthopaedic Association
- Royal College of Surgeons of England
- Shoe and Allied Trades Research Association
- Training Council for Orthotists

This British Standard, having been prepared under the direction of the Surgical Instruments and Medical Equipment Standards Committee, was published under the authority of the Executive Board and comes into effect on 30 September 1980

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Foreword

This British Standard has been prepared under the direction of the Surgical Instruments and Medical Equipment Standards Committee. It supersedes BS 3350:1961 "*Method of measurement for surgical footwear*", which is therefore withdrawn.

The purpose of this standard is to specify methods for the taking and recording of measurements of and other information about the feet, and the successful transmission of this data, together with detailed specification of the footwear required, to the last fitter, cork maker and pattern cutter.

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Summary of pages

This document comprises a front cover, an inside front cover, pages i and ii, pages 1 to 9 and a back cover.

This standard has been updated (see copyright date) and may have had amendments incorporated. This will be indicated in the amendment table on the inside front cover.

1 Scope

This British Standard specifies the basic methods for the taking and recording of all details of the feet necessary for the manufacture of orthopaedic footwear.

2 Initial information required

Before commencing measuring, brief particulars of the patient shall be noted viz., age, wearing environment and occupation, whether thin or overweight, diagnosis of patient's condition, whether the patient's feet and/or ankles swell and if so whether swelling was present at the time of measurement, and how much swelling occurs during the day. Also assessment of blood circulation, allergies, quality of skin and its sensibility should be noted.

The patient's gait shall be studied and any feature relevant to footwear shall be recorded together with any points of unusual wear on existing footwear, or any problems with existing footwear such as difficulty in getting them on or off, or with doing up fastenings.

After enquiring and noting the type of hose normally worn by the patient, socks, stockings or tights shall be removed and the feet carefully examined. A general description of the feet shall be recorded, including the presence of deformities, whether the feet are painful, whether the feet are short, long, wide, thin, plump or bony, and whether there is a normal arch, a high arch, or a flat foot. Where there is a flat foot, the big toe shall be dorsi-flexed as far as possible to see if this restores the medial longitudinal arch, and the result recorded along with indications of mobility or rigidity of knee, foot and ankle joints. Peculiarities in the heel shape along with plantar surface contours, tender areas and any abnormalities in the sole of the foot shall be noted. Hose which has been removed shall be replaced before measurements are taken.

All notes shall be recorded at least in duplicate on a suitable measurement chart such as illustrated in Appendix A. One copy is to be available for the measurer at the trial fitting.

3 Measuring and recording equipment

3.1 The following equipment is required:

- a) a properly designed chart;
- b) a ball point pen or pencil 7 mm in diameter (pens with tapering bodies shall not be used);
- c) a metric measuring tape 6 mm to 10 mm wide;
- d) a metric length gauge (size stick);

- e) plaster of Paris bandages and cast taking equipment;
- f) a malleable strip;
- g) a suitable metric height gauge;
- h) a set of blocks for measuring and checking elevations.

3.2 Further aids which may be helpful are proprietary foot measurement gauges, appropriate photographs and X-rays.

4 Allowances on measurements

Actual measurements shall be recorded on the chart. Allowances on measurements for manufacturing purposes shall be determined by the last fitter and recorded on the chart. Where the measurer determines any allowances these shall also be clearly stated on the chart.

5 Outline diagram of foot

The outline diagram of the foot (see Appendix A) shall be made on a measuring chart with the patient sitting facing the measurer and with the foot on a flat firm surface.

NOTE Ideally, the patient's chair should be on a platform of a height such that the measurer may be seated when the measurements are being recorded.

Where possible the foot shall be at right angles to the lower leg which shall be in the vertical position. Gentle downward pressure shall be applied to the knee.

If for any reason the above method is not practicable, the reason shall be noted on the chart and a full description of the method of measurement used shall be clearly stated.

Pads and bandages normally worn shall be in position whilst the measurements are taken and all others shall be removed whenever possible. When possible, correctly fitting socks or stockings of the type normally used shall be worn while the measurements are taken; if otherwise, this shall be indicated on the chart.

The main outline of the foot shall be taken with ball point pen or pencil held vertically. The height and position of the arch shall be indicated by drawing under the arch with the pen or pencil held at a suitable angle. The position of the centre of the first metatarsal head shall be indicated on the diagram (see Appendix A, reference X).