

# PLANNING ORTHOPEDIC SHOPS; LAYOUT SUGGESTIONS FROM THE PUBLIC HEALTH SERVICE

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*In the preparation of the original material, the J. E. Hanger Company and R & G Orthopedic Appliance Company of Washington cooperated with the authors.*

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Every year approximately 75,000 amputations are performed in the United States. Amputees require prosthetic appliances and instruction in their use to help them perform the activities essential for daily living.

And 75,000 patients are only a small part of the problem. In addition, many other patients medically classified as orthopedic, traumatic, arthritic, vascular and neurologic must be fitted with a countless number of devices to adapt normally used objects for use by the physically handicapped.

This paper deals with the aspects of selection, fitting, adjustments and repairs of prosthetic and orthotic appliances which affect the design of facilities for this service. First, however, there are a few terms to get straight.

*Prosthesis* is defined as the replacement of a missing part by a medically prescribed artificial substitute. *Orthosis* is the application of a medically prescribed device to or around a weakened body segment to give support and increase or control function. In other words, prosthesis is a replacement and orthosis is an addition. Individuals constructing such devices are *prosthettists* and *orthotists*—a person may be certified as both.

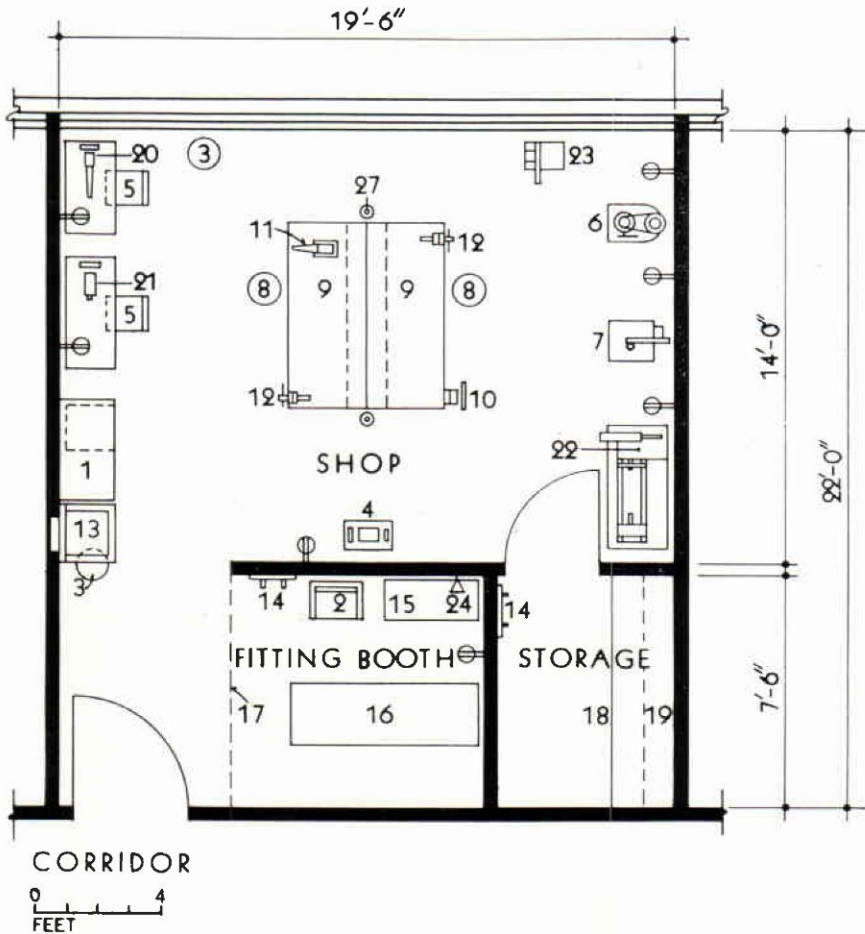
The basic prosthetic clinic team is composed of a physician, a prosthetist, a physical therapist and an occupational therapist. A psychologist and social worker also frequently contribute to the rehabilitation plan for the patient. When the amputee is ready for fitting a prescription for a custom-made appliance is prepared by the physician based on the cooperative effort of the team.

Then the prosthetist usually prepares plaster casts of the area affected and takes the necessary measurement for the fabrication of the prosthesis. When the prosthesis is completed, the device is fitted and the amputee is instructed in its use by the clinic team. Quite often, use of prosthesis or changes of the stump during training make modifications necessary. After completion of training, the amputee is again brought before the team for final evaluation.

The basic orthotic team is composed of a physician, an orthotist, a physical therapist and, in some cases, an occupational therapist. The rehabilitation procedure is generally similar to that of the prosthetic team.

The extent of the facilities for prosthetic and orthotic services will vary depending on the proposed program and sometimes on the availability of commercial prosthetic and orthotic services. Many rehabilitation facilities do not have a sufficient work load to justify the employment of a full-time prosthetist and orthotist. Usually in these cases an arrangement is made with a certified commercial firm to have a representative visit the facility as needed. In most instances this arrangement has proved satisfactory in regard to service and workmanship as well as financially.

# LAYOUT SUGGESTIONS FROM THE DRAWING BOARDS OF THE PUBLIC HEALTH SERVICE

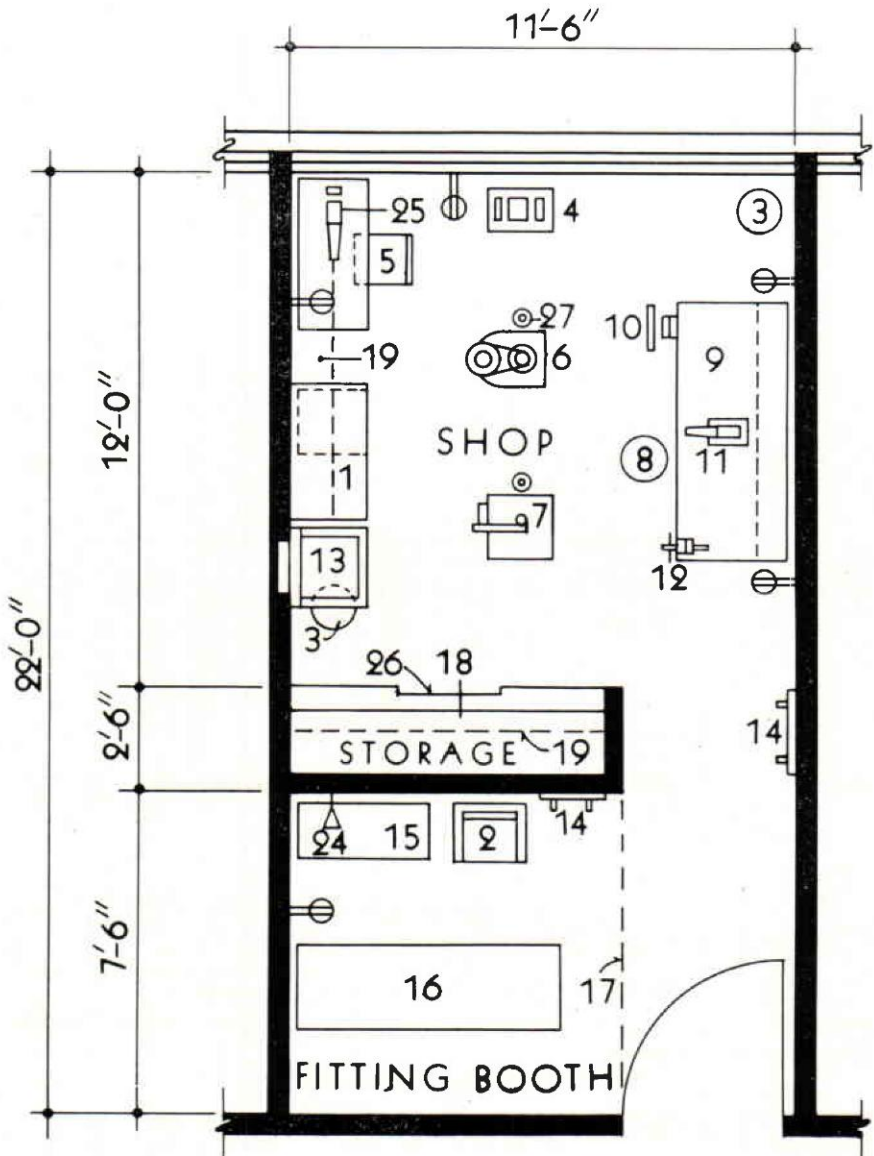


**PLAN A**

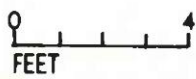
## ARTIFICIAL APPLIANCE FACILITIES

1. Counter with plaster bins and drawers below.
2. Chair with arms.
3. Waste paper receptacle.
4.  $\frac{3}{4}$ -h.p. pedestal-type buffer and grinder.
5. Straight chair.
6. 14-inch floor-type drill press.
7. 14-inch wood and metal cutting band saw.
8. Stool.
9. Work bench, 30 inches by 72 inches, wood top,  $2\frac{1}{2}$  inches thick, open tool racks above, drawers and enclosed shelves below.
10. Limb vise.
11. 50-lb. blacksmith's anvil.
12.  $4\frac{1}{2}$ -inch heavy-duty swivel-type vise.
13. Lavatory with plaster trap below and medicine cabinet above.
14. Hook strip.
15. Desk with drawers, 20 inches by 36 inches, 30 inches high.
16. Treatment table, 24 inches by 72 inches, 31 inches high.
17. Curtain rod and curtain.
18. Counter with drawers and enclosed shelving below.
19. Shelving.
20. Foot-operated patching machine.
21. Heavy-duty sewing machine with flat bed.
22. 9-inch screw cutting metal lathe with 42-inch bed, on bench with drawers and enclosed shelves below.
23. Metal cutting shears, floor type.
24. Telephone outlet.
25. Combination patching and heavy-duty sewing machine with removable flat bed.
26. Sliding doors.
27. Electric outlet, floor type.

# LAYOUT SUGGESTIONS FROM THE DRAWING BOARDS OF THE PUBLIC HEALTH SERVICE



CORRIDOR



PLAN B