METHODS OF EXAMINATION IN EAR, NOSE AND THROAT

W. G. SCOTT-BROWN

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LONDON
BUTTERWORTH & CO. (PUBLISHERS) LTD.
1954

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OF EXAMINATION IN
EAR, NOSE AND THROAT

AFRICA: BUTTERWORTH & CO. (AFRICA), LTD.
DURBAN: GOODRICKE'S BUILDINGS, MASONIC GROVE

AUSTRALIA: BUTTERWORTH & CO. (AUSTRALIA), LTD.
SYDNEY: 8 O'CONNELL STREET
MELBOURNE: 430 BOURKE STREET
BRISBANE: 240 QUEEN STREET

CANADA: BUTTERWORTH & CO. (CANADA), LTD.
TORONTO: 1367 DANFORTH AVENUE

NEW ZEALAND: BUTTERWORTH & CO. (AUSTRALIA), LTD
WELLINGTON: 49/51 BALLANCE STREET
AUCKLAND: 35 HIGH STREET

PRINTED IN GREAT BRITAIN
SPOTTISWOODE, BALLANTYNE AND CO., LTD.
LONDON AND COLCHESTER

To

G. G. S.-B.

PREFACE

METHODS of examining the nose, throat and the ear can be mastered only by constant practice in an outpatient department. The fact remains, however, that in the qualifying or higher examinations of the speciality the majority of failures occur in the practical part of the examination, and that the methods used by candidates in making their examinations are frequently at fault and often the cause of a downfall. In addition, the general practitioner finds the examination of the ear, nose and throat a daily necessity. A practical guide to the most efficient way of examining this region is of the utmost importance to him. This is the excuse for a short book confined to the description of how to examine the patient's nose, throat and ear.

In the description of the examinations the normal appearances have had to be described and some abnormalities touched upon, but as far as possible these have been kept to a minimum.

Although I must accept full responsibility for the omissions and defects of this short book I must thank Mr. Lionel Taylor for his helpful suggestions and for reading through the manuscript and proofs; also Miss Jill Payne who has produced all the many drawings and diagrams from the rough sketches I provided and who has given them a uniform character throughout. We were both indebted to Mr. John Shepherd of the Photographic Department of the Royal Free Hospital who made innumerable photographs to assist us in making the diagrams; he also provided the few photographs reproduced.

I should like to acknowledge the radiographs from Dr. Cordiner, Dr. James Bull, Miss Staveley and Dr. Exner, and the contributors to *Diseases of the Ear, Nose and Throat* for permission to use some of the illustrations. All the members of the publishers' staff have, as usual, given me unfailing help and encouragement.

W. G. SCOTT-BROWN.

London, November 1953.

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CHAPTER 1

INTRODUCTION

PRELIMINARY CONSIDERATIONS

History

THE HISTORY of a case—family history, past history and the history of the present condition—must be carefully taken and considered but it is not discussed here since it is a routine in all medical and surgical examinations.

The consulting room

The room in which examinations are to be made must be large enough for hearing tests and should be at least 20 feet long if possible. It must be reasonably quiet unless a sound-proof room is provided but this is not necessary for routine examinations.

Position of patient

Adults.—The patient should be seated on a chair with a revolving seat that can be raised or lowered. It is useful but not necessary to have arm rests and an adjustable head rest. A head rest is seldom necessary or advisable and patients will often keep more still and be more co-operative if they feel they are free to "get away" rather than be fixed against a head rest.

Children.—A young child who will not keep still during the examination is much better held on an assistant's knee. Most examinations can be quickly carried out and it is kinder to hold the child firmly and release it quickly than to have a long-drawn-out scene or struggle resulting in a much less accurate examination. The assistant should sit in the examination chair with the child on her lap, the legs hanging down between the assistant's legs where they can be firmly grasped (3). The child's hands should be placed across the chest and held there

FIG. 1.

by one of the assistant's hands (2). The head is fixed by placing the other hand on the patient's forehead (1). In this position an unruly child, even if quite strong, may be effectively but kindly "fixed" (Fig. 1).

Apparatus

The examiner is best seated on a revolving stool which can be raised or lowered.

Examination table

To his right is the examination table on which is placed a sterilizer and Cheatle's forceps, bottles containing the most commonly used solutions, ointments or powders, a spirit lamp and other special appliances. Drawers in the table contain the instruments, to be described later, which are used for the various examinations. There must also be a cupboard containing bowls, jugs, douche cans and so on which are made preferably of stainless steel for ease of cleaning and sterilization (Fig. 2*a* and *b*).

Suction apparatus

A suction apparatus should always be at hand and can be connected to sucker ends or catheters for suction to the nose, ear or throat. This is the simplest and least uncomfortable method of removing discharges and is certainly the easiest for the examiner. It is an essential part of the examination arrangements.

Methods of lighting

The examination lamp should consist of a container for a 100-watt opal bulb which is focussed by a strong convex lens (Fig. 3*a*). The lamp is supported on a movable arm which slides on an upright stem and can be fixed just above and to the right of the patient's left ear. From this source is reflected the light required to examine the ear, nose or throat. The reflector is a

FIG. 2 (*a*).

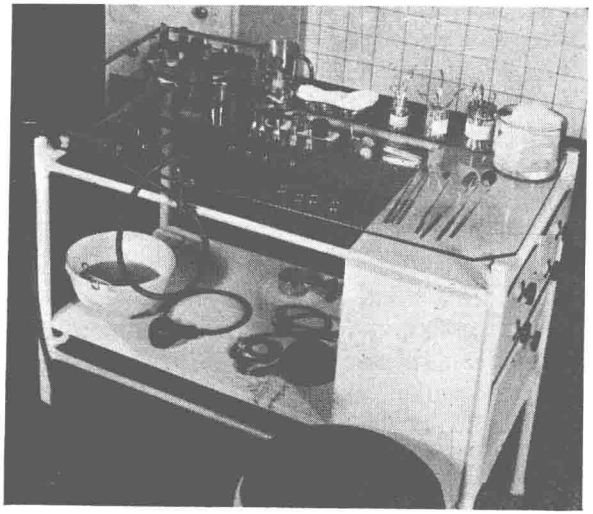

FIG. 2 (*b*).

concave mirror worn by the examiner on a head band with a double box joint (Fig. 3*b*).

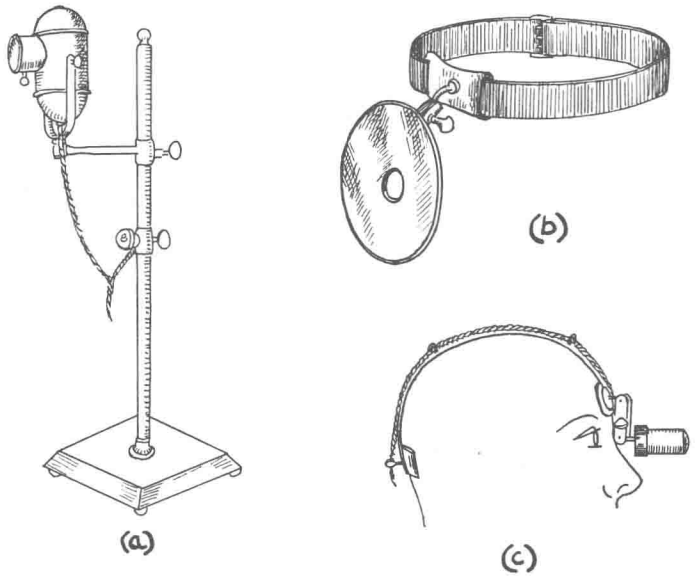

FIG. 3.

The purpose of the double box joint is to enable the mirror to be as close to the examiner's eye as possible. There is a hole in the centre of the mirror, about half an inch in diameter, and the field of vision through this hole is obviously greater if it is close to the eye. The focal length of the mirror should be seven inches and the head band, joint and mirror should be as light as possible. It is often worn continuously for some hours and a heavy mirror produces fatigue and headache.

A headlight with a focussing system of lenses, or a spotlight which may be mounted on spectacle frames with either plain glass or lenses for the individual examiner's refractive error are alternative sources of light for the examinations (Fig. 3*c*).

The advantages of the spotlight is that it is small, is situated directly between the eyes and approximates more nearly to the

reflecting mirror in which one looks directly down and along the centre of the beam (Fig. 4*a*).

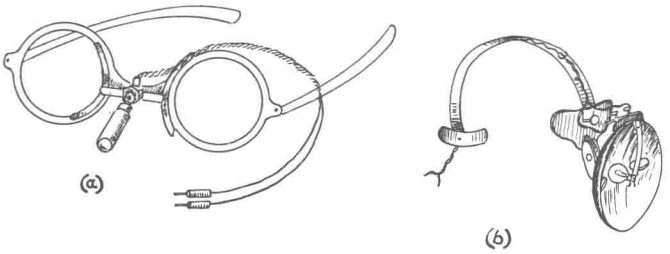

FIG. 4.

The Clar light, more commonly used on the Continent, is yet another form of lighting. It consists of a concave lens with a hole through its centre and a bright electric bulb in the concavity. The position of the bulb can be altered, thus the point of focus of the light may be moved (Fig. 4*b*).

The usual and most useful method of lighting is by means of a strong examination lamp and a head mirror.

CHAPTER 2

EXAMINATION OF THE NOSE, POST-NASAL SPACE AND SINUSES

THE NOSE

INSPECTION and palpation of the nose will show depression or deviation of the nasal bridge due to injury or disease. A fistula may be present in the midline connecting with a dermoid cyst. Any abnormality of the soft tissue structures will also be noted. The tip may be enlarged by rhinophyma—strawberry nose—a rodent ulcer may be seen or the tip may be completely destroyed by lupus. Dislocation of the columella edge of the quadrilateral cartilage may be present and will usually indicate a considerable septal deviation.

Observation of the nose must also be carried out standing above and behind the patient. This gives a fresh view of any deformity.

The patient is watched carefully while breathing through the nose and movement or fixity of the alae nasi should be noted. In most normal cases there is slight movement of the alae nasi during inspiration and expiration. In cases of partial obstruction or habitual mouth-breathing the levator labii superiores alaeque nasae may gradually cease to function and the alae nasi become set, or may even collapse, during inspiration. The more effort the patient makes to breathe in through the nose the more the alae collapse. An attempt should always be made to correct this before embarking on corrective surgery for an obstruction, for example, a submucus resection. It is only by daily practice for many weeks that this can be achieved.

Anterior rhinoscopy

With a good examination lamp and head mirror the nasal vestibule can easily be seen in children and most adults by

lifting up the tip of the nose with the finger. The anterior part of the septum and even the middle meatus may be seen. Papillomas, cysts, and even bleeding points on the anterior part of the septum may be seen more easily than when a speculum is used.

This examination should always be made before using a nasal speculum as spurs and crests on the anterior part of the septum, an angioma, or a carcinoma call for care in introducing the speculum. Bleeding may be produced from a spur by the clumsy introduction of the blade of a speculum.

A Thudichum or Lennox-Brown is the most usual type of speculum and is made in many sizes (Fig. 5). It must be held in the left hand to leave the right hand free for other examination or manipulation.

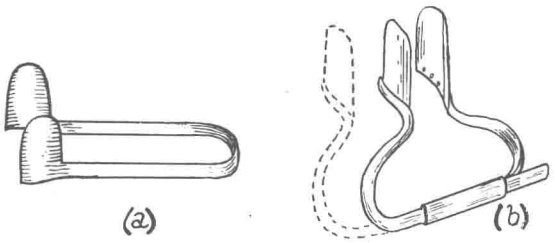

FIG. 5.
(*a*) Thudichum's speculum. (*b*) Lennox-Brown's speculum.

The speculum is held with the thumb and the forefinger to fix it and so prevent a sudden twist when it is in the nose; the control of the spring is made with the third and fourth fingers on the one side and the second on the other. It is important to keep the spring of the speculum under control all the time (Fig. 6). It should not be inserted into the nose, released and then merely held.

The closed speculum is passed into the nasal vestibule and the blades directed upwards in the line of the opening of the nostrils

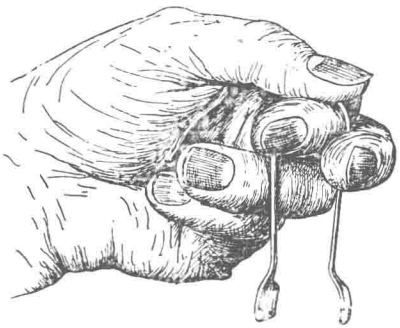

FIG. 6.

before the handle is made vertical. Having noted the septal deviation the septal blade is passed parallel to the septum so that the septal blade is flat on the septum. Whereas the muco-cutaneous junction is a quarter of an inch inside the vestibule on the septal side, it is half an inch or more on the outer side.

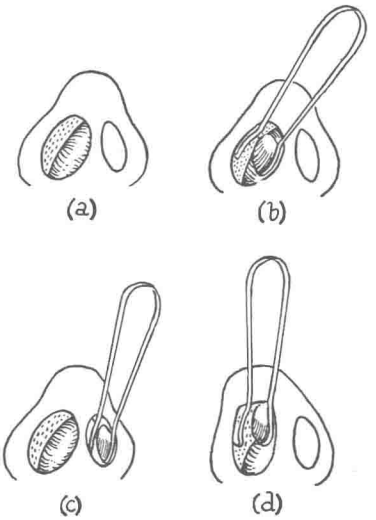

FIG. 7.

(*a*) The nasal vestibule with the anterior part of septal cartilage deviated to the right. (*b*) Speculum passed into right side of the nose with septal blade flat on the septum. (*c*) Speculum on left side of nose with septal blade still flat on the septum. (*d*) Speculum lifting up the top of the nose.

The septal blade of the speculum can therefore press into mucous membrane of the septum but on skin only on the outer wall of the nasal vestibule. The blades should be inserted up to the hilt and allowed to open under control and then the tip of the nose gently lifted up.

If there is inflammation of the nasal vestibule great care must be taken in opening the blades of the speculum; cracks and fissures may make this examination very painful.

Note the colour of the mucous membrane and variations from the normal pinkish-red. Bright or angry red is associated with an acute rhinitis. Pale bluish-white mucous membrane is characteristic of allergy and is often seen associated with allergic asthma. In anaemia the colour is pinkish-white.

Anatomical and pathological abnormalities are again looked for; varicose veins in Little's area, spurs and septal deviations,

polypi or hypertrophied turbinates. Cases with hypertrophied anterior ends of the turbinates are often referred to hospital as cases of nasal polypi. They are easily distinguished as the hypertrophied turbinate is firm, fleshy, and red, and does not move much when touched with a probe, whereas a polypus is usually yellowish-grey in colour, translucent and shiny, and moves easily on its stalk when touched with a probe. Nasal polypi may become pinkish-white in colour and not translucent when they are so near the vestibule that they are rubbed on blowing the nose. The covering cubical cells become stratified.

A sucker should always be available, and often by just inserting it into the nasal vestibule a mucoid discharge will be cleared away giving good view. The mucus, being tenacious, can be seen to be drawn out of less accessible parts of the nose by suction. A No. 2 eustachian catheter or frontal cannula is all that is required and is often lighter to handle and more comfortable to use than most recognized sucker ends. If the discharge is profuse and very tenacious a No. 3 or 4 eustachian catheter may be required.

Discharge on the floor of the nose may gravitate there from any part of the nose, but if it can be seen trickling from the middle meatus this indicates infection of one of the anterior group of sinuses, namely the frontal, maxillary or anterior ethmoid cells.

The size of the airway should be noted and only when the passage is unduly or abnormally wide can a view be obtained through to the post-nasal space. The posterior nasopharyngeal wall is identified by many small spots of light reflected back to the observer. If the patient is instructed to swallow, these points of light move up and down as the pharyngeal wall moves. At the same time the soft palate may be seen to move up and the lateral wall inwards by contraction of the levator palatae (Fig. 8).

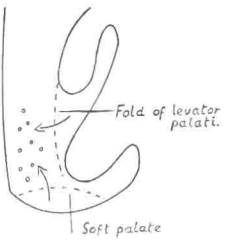

FIG. 8.

Occasionally, the posterior end of the inferior turbinate may be hypertrophied