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COMMUNICATIONS

THE EYE DEPARTMENT IN A MIDDLE EAST GENERAL HOSPITAL*

BY

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THIS paper gives a brief survey of the organization and nature of the work of the Eye Department in one of the hospitals serving the Eighth Army from the autumn of 1940 to the conclusion of the North African campaign in May, 1943. The casualty statistics given below are those beginning with General Cunningham's offensive in the Western Desert in October, 1941, and end in May, 1943. These cover the period of fluctuating fortunes of the Eighth Army in its advance to the relief of Tobruk (1941 and early 1942) and on to Benghazi, then the loss of Benghazi, the German-Italian offensive in May, 1942, the loss of Tobruk and the retreat to Alamein. The majority of cases were the result of the triumphant British attack at Alamein in October, 1942.

Lay-out of the Eye Department

The Eye Department is housed in one block of the hospital, on the ground floor is the out-patient department and on the first floor the ward. Fig. 1 shows the arrangement of the out-patient

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department. It consists of two sections. (1) For minor operations, treatment and examination of ocular disorders by an inspection lamp, visual fields, scotometry, office work and records; and (2) for refraction work and dark-room examination, including corneal microscope and slit-lamp, of patients.

FIG. 1.

- A = Refraction room, sub-divided into 2 dark rooms, one of these with mirror reflected test type.
 B = Treatment, visual field and record office.
 T = Test type.
 D = Desk.
 C = Clerk's desk.
 Sl = Slit-lamp.
 B = Basin.
 P = Forms for waiting patients.
 Tr. = Treatment room.
 S = Sterilizer.
 O = Office.
 Bj. = Bjerrum screen.
 Pe. = Perimeter.

FIG. 2.

Shows the lay-out of the eye-ward. The ward is sub-divided into 6 rooms of 8 beds, one of 4 and an isolation room for 2. There are 2 open balconies and one covered balcony.
 Tr. = Treatment room and sister's duty room.

Fly-netting was arranged over the windows and doors in the summer, but despite this we were sorely tried by these pests. Electric fans operated in the assistant's refraction room and the office, elsewhere, particularly in the dark-room, we sweated freely.

The eye ward is capable of expansion to 68 beds; 40 to 45 are

generally filled. The ward is sub-divided, see Fig. 2. The ward sister has a treatment room, and office. In this she administers routine therapy to "up" patients. The sub-divisions of the ward contain 8, 4, and 2 bedded rooms, and the balcony and corridors more than 8 respectively. Surgically clean cases are kept in separate rooms at one end of the ward. Three such are allotted for retinal detachments, clean penetrating wounds and plastic cases. Others are for infected eye wounds and those associated with multiple wounds in other parts of the body. A small room with 2 beds serves for isolation purposes. The balcony and corridors are used for patients with inflammatory disorders of the eye requiring routine treatment, for medical and neurological cases.

In the officers' wards 2 or 3 small rooms are kept for eye cases according to our needs. Eye cases are also in the surgical wards on account of other injuries of a major character, the majority being under the Neuro-Surgical Unit. Incidentally, the formation of special centres such as the "Neuro-Surgical Centre" and the "Facio-Maxillary Centre" has obscured the forgotten Cinderella eye surgery. Medical officers sorting convoys direct the majority of eye wounds to one of the above centres, so that much of our work arrives second-hand, with some delay in transfer. Perhaps the publicity of such a designation as "Eye Centre" would awaken sorting officers' consciousness of our presence and the service we offer.

For operations we use one of the 4 general theatres, which are admirably equipped. In addition we have a small theatre devoted entirely to electro-magnet work. The minor operating theatre has already been mentioned in describing the out-patient department.

Dressings requiring the most careful attention to asepsis, such as plastics and bone work, were done in an operating theatre and not in the ward.

The Team

The team consists of :—

- One Eye Specialist, on the establishment of the hospital.
- One part-time assistant, not on the establishment of the hospital as such.
- One Nursing Sister, with ophthalmic training.
- Two other Nursing Sisters without special training.
- One V.A.D.
- Two Orderlies, one working in the ward and the other in the out-patient department.

The part-time assistant is a captain who is training to be a "Graded Ophthalmologist." His duties, other than assisting in the out-patient department with refractions and minor operations,

are in the medical wards, as orderly medical officer, to sit on Medical Boards, Courts of Enquiry, and from time to time to go away on investigation of the diet of a civilian internee camp and such like. His presence could not always be depended on, which embarrassed the arrangement of the out-patient work.

The peace-time army methods of changing the duties of nursing sisters and orderlies has a sound training purpose, but such may be most trying and wasteful in war, particularly if this occurs in a rush of casualties. Every one in the team must know his or her job and be capable of working quickly and smoothly. The presence of several newcomers, ignorant in ophthalmic matters, however willing, slows down the work, adds to the load of those who can do it and causes extra anxiety to the surgeon, and probably not a little to the patients, who become quickly aware of unskilled treatment. It would be good if selected sisters and orderlies whilst in England were sent on courses of instruction to certain large civilian eye hospitals and then ear-marked for work in the eye departments of Military Hospitals.

Often there was no one on the nursing staff of a ward who had ever irrigated an eye, instilled drops and ointment or knew how to remove a prosthesis, apart from the special points in the care of patients after eye operations. The changes in the nursing staff were sometimes so frequent that the state of elementary instruction was constant. Some admitted at the outset that they had no liking or aptitude for the work.

A similar state of affairs occurs in theatre work. A few sisters became good at assisting at eye operations and learnt to appreciate the fine care which the handling of eye instruments deserved, whilst others were plainly misfits for any operating theatre and were a menace near an eye or an eye instrument.

Routine Work

My daily routine is as follows :—

- 06.15—07.15 Writing of notes and records.
- 08.30— Surgical Division meeting.
- 08.45—10.00 Dressings in minor operation theatre.
Examination of " up " patients.
- 10.00—11.15 Ward rounds.
- 11.15—13.15 Refractions.
- 13.45—16.30 Medical ward cases. Neurological cases for fields.
Refractions.
- 17.00—19.15 In-patients requiring lengthy examination, *e.g.*,
retinal detachments, neurological, patients for
medical boards and discharge from hospital.
- 21.00—22.30 Notes and Records.

Major eye operations are done on Tuesday and Friday mornings, and take 4—5 hours. Occasionally we continue operating in the afternoon and rarely prolong this into the evening. Saturday afternoons are free. On Sunday morning a clinic is held, but there are no routine refractions done; the afternoon is devoted to the upkeep of records. We have never succumbed to the "siesta," but work on through the afternoon heat, although our fluid loss is often considerable.

Some evenings, particularly Friday, after the distribution of pay, we are disturbed by the casualties of bottle parties. Other evenings road accidents and assaults on British soldiers by natives armed with broken glass, daggers, bottles and bricks afford a number of compound fractures of the orbit and penetrating wounds of the eye.

Convoys of wounded generally arrive in the evening or at night. Stretchers are taken to the minor operation theatre, where a careful inspection is made, some simple treatment applied, notes made about any further investigations which might be necessary, and other wounds examined if the patient is not too exhausted by his journey. All this is done with the least disturbance possible, and the patient is then carried to the ward for food and a good night's rest. X-ray, other investigations and operative treatment are done on the following morning. In very few instances is it necessary to operate at once. Panophthalmitis and orbital abscess with meningitis required prompt attention for pain and the seriousness of the general condition. Otherwise it is better to leave the men alone to have food, a good sleep, and a general clean-up on the following morning. A few days separate the arrival of the next convoy, and so gives good time to deal surgically with those requiring operation,

Notes

A famous *Times* correspondent in the Crimean War, after a visit to G.H.Q., commented that the Commander-in-Chief sat all day at his desk and long into the night writing, and this was so of every department of the Army. He says, "Why all this scrivenny? If there must be so many returns to Whitehall, then what is needed are two Generals, a fighting General and a writing General." Indeed, to-day much of our time in military hospitals is spent as writing doctors. The administrators need certain facts, and under present conditions it is difficult to see a way of reducing the number of returns on the same patient. An average of three sets of full clinical notes and two abstracts are kept, and these are:—

- (1) A.F.I. 1220 (in duplicate for the R.A.F.). Case Card.
- (2) A.F.I. 1237. Case notes for hospital records, transfers, medical boards and invaliding.

- (3) Notes for the surgeon's private records.
- (4) Field Medical Card. Abstract of notes.
- (5) Follow-up Card.

When duplicates of (1) and (2) were required I used a carbon sheet and indelible pencil, but had such work returned to me to be done again in ink. In addition to these it is necessary in many cases to keep an abstract on an out-patient card. Notes have also to be recorded on consultation slips sent by medical officers from other departments. A refraction case requires a note for the unit M.O., an entry of the prescription in the soldier's pay book, and four copies of this on an indent. Much of the latter can be done by a trained clerk, but the entries have to be checked and signed by the Eye Specialist. More writing is necessary for accident forms, medical boards, special types of casualties such as those occurring in tanks, statistical returns, quarterly reports, indents for glass eyes and equipment, breakage forms, patients' passes, the quadruplicate forms for placing a patient on and off the "dangerously ill" and "seriously ill" lists, and others. In some cases 21 forms and notes may require the medical officer's writing attention. It takes time to train an orderly in ophthalmic nomenclature so that he can copy notes with accuracy and assist in the compilation of statistical returns. The eye department does not receive a qualified clerk.

Patients

We have had good cause to curse the events of Babel and the confusion of tongues. Our patients, besides British and Dominion troops, are French, Poles, Czechs, Yugoslavs, Indians, Africans (coloured), Sudanese, Arabs, Palestinians, German and Italian prisoners. A few directions necessary for an eye examination have been learned in these languages.

To this hospital are referred especially patients with retained intra-ocular foreign bodies, retinal detachments, and certain cases requiring plastic reconstruction of eyelids, sockets and orbit.

The neuro-surgical unit sends us patients of neurological interest, and among these have been some interesting cases of minute paracentral homonymous scotomata. There have been several with bizarre field defects of some complexity owing to the missile or bone fragments transversing both occipital lobes obliquely. One such instance is a cup-shaped homonymous defect affecting both lower quadrants in the lower half of each visual field.

The majority of extractions of intra-ocular foreign bodies achieved or attempted have been done by the posterior route technique. The technique used is given in another paper (see *Brit. Jl. Ophthalm.*, March, 1944). A diathermy apparatus, fine sharp scleral hooks, and an eyeless scleral needle are essential

to the proper performance of this operation. There is good reason to believe that it is the operation of choice for extracting intra-ocular fragments of war missiles. The table below shows the percentage of various types of foreign bodies extracted through the posterior and the anterior route by the electro-magnet, by forceps, or left in situ as non-magnetic.

TABLE III

		Shell	Hand Grenade	Machine Gun Bullet Casing	Land Mine	Booby Trap	Mortar Bomb	Cannon Shell (Air)	Bomb (Air)	Hammer and Chisel, Brass, etc.	Bomb or Shell Fuse	Total
Posterior Route	Magnet Extraction	5	3	—	5	—	1	3	5	9	—	31
	Non-Magnetic Forceps Extraction	—	1	—	—	—	—	—	—	—	1	2
	Non-Magnetic Not Extracted	13	8	1	10	1	2	—	1	4	—	40
Anterior Route	Magnet Extraction	1	3	—	1	—	—	—	—	3	—	8
	Non-Magnetic Forceps Extraction	—	—	—	—	1	—	—	—	—	—	1
	Non-Magnetic Not Extracted	6	7	—	3	4	—	—	1	—	2	23
Total ...		25	22	1	19	6	3	3	7	16	3	105

It will be seen from this table that about 30 per cent. of fragments from shells, hand grenades, and land mines may be extracted by the posterior route, and that the figures for shells and land mines is less favourable by the anterior route.

Out of 105 penetrating wounds of the eye with retained intra-ocular foreign body 53 were battle casualties, 11 occurred on lines of communication as a result of "booby-traps," mines, hidden hand grenades, and aerial bombs; 16 were due to accidents of a civilian kind such as occur with a chisel and hammer; and 25 were due to stupidity and carelessness of troops playing with or dismantling for curiosity grenades, fuses, and detonators; 58 per cent. had wounds in other parts of the body.

The following are the casualty statistics:—

(1) Penetrating wounds of the eye with retained intra-ocular foreign body, 105.

(2) Penetrating wounds of the eye without ophthalmoscopic or radiographic evidence of an intra-ocular foreign body, 40.

- (3) Contusions of the eyeball, 10.
- (4) Wounds of the eyelids and eyebrows, 52.
- (5) Orbital wounds and fractures, 97.
- (6) Intracranial wounds damaging the visual pathways and cortex, 110.
- (7) Deep corneal foreign bodies, 19.
- (8) Scleral foreign bodies, 3.

Retinal Detachment

Sixty-eight patients suffering from retinal detachment have been treated by the same operative technique of surface diathermy and suction drainage of the inter-retinal fluid through a diathermy penetration of the sclera and choroid.

The results are as follows:—

- (a) Myopes, 3. All successful.
- (b) Cystic degeneration, 10. All successful.
- (c) Degeneration after healed choroido-retinitis, 20. All successful.
- (d) Trauma, Contusions, civil type, 21 cases, 18 successes, 2 immediate failures, 1 partial recurrence.
- (e) Trauma, war, 14 successes, 4 partial recurrences.

The two immediate failures in the civil trauma group were cases of total retinal detachment, one a very restless and nervous Greek officer and the other an Italian prisoner of war, in whom the retina was puckered and cobbled up in the macular region as a result of organised haemorrhage at this site.

In the war trauma group it seemed that the prognosis would be unfavourable on account of relatively large sheets of organized blood apparently on, in and beneath the retina, the absence of tears in some cases and the presence of relatively large tears in others, with the possibility of vitreous gel being in the inter-retinal space. Many such eyes had low intra-ocular pressure, the sequel of severe contusion. In the absence of a tear an operation was designed to pin down the retina at the equator and up to the ora serrata in a selected zone. This worked admirably in the three cases in which it was tried.

Operations

The following is a list of major eye operations performed during the North African campaign from October, 1941, to its finish:—

WAR SURGERY

Penetrating wound with intra-ocular foreign body.

Giant electro-magnet.

Posterior route, 73.

Anterior route, 8.

Penetrating wound.

- Conjunctival flap, 4.
- Abscission of prolapsed intra-ocular contents and conjunctival flap, 5.
- Corneal suture and abscission of prolapse, 1.
- Scleral suture and abscission of prolapse, 4.
- Scleral suture, 11.
- Corneal and scleral suture, 3.
- Traumatic cataract, evacuation of, 8.
- Capsulotomy, 20.
- Capsulectomy, 1.
- Iridectomy, 2.
- Division of anterior synechia, 5.
- Paracentesis of anterior chamber and forceps extraction of foreign body, 2.
- Division of vitreous band, 1.

Eyelids.

- Primary repair of lacerated wounds, 12.
- Cicatricial ectropion, plastic reconstruction, 43.
- Traumatic coloboma, plastic reconstruction, 5.
- Total loss of the eyelid, plastic reconstruction, 3.
- Eyebrow graft, 6.
- Eyelash graft, 2.
- Buccal mucosa graft, 3.
- Skin graft, 25.
- Foreign body, metallic, impacted, removal of, 5.
- Abscess, incision, 2.

Orbit.

- Fracture, reconstruction of, 4.
- Foreign body, removal by anterior route, 5.
- Foreign body, removal by Krönlein's operation, 3.
- Sequestrum, removal of, 3.
- Fat graft, 2.
- Cartilage graft, 2.
- Abscess, incised, 1.
- Granuloma, 2.

Cornea.

- Foreign body, deep, removal of, 5.

Sclera.

- Foreign body, deep, removal of, 2.

Socket.

- Symblepharon, division of, 12.
- Contracted, plastic reconstruction, 15.

Canthotomy, 1.
Sinus, 2.

Lacrimal.

Removal of metallic foreign body from lacrimal sac, 1.
Canaliculus suture, 1.

Corneal abscess, Saemisch section, 1.
Excision of eye, cartilage graft in socket, 6.
Excision of eye, 16.
Evisceration, 18.

CIVIL SURGERY

Lacrimal.

Dacryocystorhinostomy, 12.
Dacryocystectomy, 4.
Conjunctivo-dacryocystostomy, 3.
Abscess, incised, 1.
Fistula, 1.
Canalicular curettage, 1.

Conjunctiva.

Pterygium, 14.
Neoplasms, innocent, 2.
Cyst, excision, 3.
Granuloma, excision, 4.

Cornea.

Ulcer, conjunctival flap, 2.

Lids.

Neoplasms, basal-celled carcinoma, diathermy excision and plastic repair, 6.
Papilloma, diathermy excision, 3.
Melanoma, diathermy excision, 1.
Granuloma diathermy excision, 1.
Tarsorrhaphy, 11.
Lid plastic, 1.
Ectropion cicatricial, 1.
Entropion, 2.
Ptosis, fascia lata sling, 1.
Advancement of levator palpebrae superioris, 11.
Mottais' operation, 1.
Greeves' operation, 1.
Trichiasis, transposition of flaps, 4.
Dystichiasis, plastic, 1.

Muscles.

- Recession of internal rectus, 6.
- Partial resection of internal rectus, 1.
- Advancement of external rectus, 4.
- Guarded tenotomy of external rectus, 1.
- Muscle transplantation for external rectus palsy, 2.
- Inferior rectus recession, 3.
- Partial tenotomy superior rectus, 1.

Retinal Detachment.—77.

- Haemangiomas retinae, diathermy, 1.
- Malignant melanoma of choroid, diathermy, 1.

Sclerotomy.—1.*Iridotomy.*—1.*Orbit.*

- Krönlein's operation, 1.
- Dermoid cyst, 1.
- Haematogenous cyst, 1.

General Surgery.—47.

(This includes removal of metallic foreign bodies from other parts of the body and plastic procedures to the face associated with wounds of the eyelids and orbit.)

In the mobile eye unit, which operated with a C.C.S., Major Dansey-Browning found it impossible to operate under local anaesthesia. The wounded had controlled their behaviour in the forward areas, but many gave way when the relative security of a C.C.S. was reached. After arriving at a general hospital and having enjoyed a good night's rest, I found that I could operate on the majority under local anaesthesia and that they all behaved with characteristic British equanimity.

In some instances the severity of multiple wounds and the necessity for one anaesthetic and surgical speed compelled us to work simultaneously with other surgeons. In two cases we operated with neuro-surgical, general surgical, orthopaedic and blood transfusion teams. In one of these cases we managed the primary plastic reconstruction of four eyelids and an eyebrow and the evisceration of one eye during the neuro-surgeons' attentions, and they were kind enough to halt whilst we repaired four scleral wounds and abscised an iris prolapse in the remaining eye. Despite this the activities of the general surgeons on the abdomen and the orthopaedic people on the limbs induced shaking of disconcerting proportions for the proper conduct of eye surgery. It was necessary to demand absolute control during work which involved intra-ocular structures.

In C.C.S. operating theatres such surgical combinations have greater hazards, for the tables are of a light, portable character and sway appreciably on their sandy foundation.

Simultaneous operative work is undesirable, and should be declined unless the condition of the patient is so serious that the best must be made of a difficult surgical situation in the shortest possible time.

The Blind

To this hospital were sent blinded officers and other ranks to await transport to South Africa, where St. Dunstan's undertook the preliminary stages of their training. Often they had to wait three or more months before a hospital ship was available. During this time they learned games such as cards, dominoes and draughts. They had some instruction in Braille and were given facilities for occupational work, such as rug, mat and scarf making. They received Braille watches.

The time to acquaint them with the facts about their condition and the prognosis had to be carefully chosen. The majority on arrival from the battlefield believed that their sight was only temporarily impaired and that they would regain it. I thought it best to wait until the blind man had learned to do a number of things for himself, to acquire independence in most of his daily actions, and to realise that there was something to be enjoyed in life, before I told him the truth.

It is as well to have a comprehensive talk with the blind soldier, and particularly to touch on domestic matters. Three poor fellows thought that they would produce blind children and rejoiced on being assured otherwise.

I was never asked directly by a recently wounded man, "Am I going to see again?" The situation in this respect resembles many patients who have malignant disease and never inquire, "Have I cancer?"

In a number of cases, when the soldier was told that he would be permanently blind he would not believe it, and clung pathetically to the hope that in six months or a year he would see again. The response to this tragedy varied with individual intelligence and character. The two officers we had set to work at once and quickly took an interest and a certain pride in adjusting themselves to a sightless life, and showed genuine enthusiasm about their preparation for a career. This was also so, only in a lesser degree, among the more intelligent other ranks. It was difficult to assess the feelings and outlook of men of lesser mental faculties and personality. For them particularly, and indeed for all of them, a prolonged stay in hospital was bad. The atmosphere was wrong; when convalescent they were otherwise quite fit;

ward discipline was irksome and exercise often inadequate for young men. They needed the attention of people trained in the handling of blind men. We tried to teach other patients, who were convalescing, the technique of leading the blind, directing them to chairs and so on in a manner so that the blind man could feel as independent as possible. The constant changes of nurses and patients, their mis-directed sympathy, and the unconscious clumsiness of some were causes of failure.

Some of the blind, who were probably grumblers when sighted, groused considerably and demoralised the others. The situation was indeed intensely trying for them. The remedy clearly lay in sending them home as soon as their wounds were healed, so that they could be handled by experts, started on a career and be enabled to enjoy being with their home folk.

Their presence in an eye ward at first shocked and demoralised other patients less seriously injured. However, in some cases there was the reverse effect, and these were grateful for whatever sight they had been spared or had regained in recovery. It is quite evident that institutional life is not a happy one for the blind, particularly in hospitals.

Refractions

Refractions were the main part of our work both in times of military operations and in the quiescent periods of preparation for a battle and its aftermath. It was the experience of the Mobile Ophthalmic Unit and some of the Base Hospitals in an active theatre of war that the rise in the number of men "going sick" on account of "defective vision" was in a sense a barometer of military apprehension and morale. On the eve of a battle the incidence rose. In a successful action the number evacuated and labelled "Defective vision, glasses," on the Field Medical Card was appreciably small compared with times of military adversity and particularly retreat. In 1941 and 1942 about 12 or 13 per cent. of convoys of wounded men were unscathed but desiring a "test for glasses." These had to be admitted as "casualties," their beds were required for wounded, and so they had to be "got rid of" at the earliest opportunity, often at night. Their examination, paper work, and disposal consumed much time which could be ill afforded by those concerned. On a card I had typed the following appeal, which the men were ordered to read, for I tired of saying it to each one:—

"The football team which you follow is in the cup final. It is a hard and even game. The centre-forward has received a trivial injury, quite insufficient to disable him. He could continue to play on for his team until the finish of the game, but he chooses to leave the field. What would you think of him? You have

left your unit and your friends at a time when they needed any help you could give them. You have occupied a place in an ambulance, in a hospital train, and now a bed in hospital badly needed for wounded men. Your folks at home look to you to save them from German domination and tyranny. You can be a map if you try, so next time stick it out."

In about two hundred refraction cases evacuated from combatant units in action and reaching this base hospital, one only had lost his glasses through enemy interference.

The Mobile Ophthalmic Unit has been the answer to such difficulties so far as these affect the hospitals, and in future it is probable that these will rarely occur where such units are so placed in the line of evacuation that by-passing is impossible.

Clinical Research

Clinical research continues in the following :—

(1) *Penicillin* has been used as drops thrice daily on infected wounds, and in the conjunctival sac and in sockets. The discharge is more copious for twenty-four hours after the beginning of treatment. Bacteria disappear from cultures of the wound and conjunctiva after forty-eight hours. It is evidently of value in preparing an operative field for plastic work or an eye for intra-ocular operation.

(2) *Cetyl pyridinium bromide* is a clear, soapy liquid of low surface tension. It is lethal to streptococci and staphylococci outside the body in 1 in 10 million and in serum in 1 in 10 thousand. It is a non-irritant to the skin and conjunctiva. We have used it for the preparation of the field of operation.

(3) *Sulphonamides*.—The value of sulphonamide dusting in wounds of lids and orbit and primary suture has been examined.

(4) *Plastic Operations*.—New methods of reconstructing colobomata and large losses in the eyelids have been tried with success.

(5) *Extraction of intra-ocular foreign bodies by the posterior route*.—A technique has been elaborated which has worked well. In no case has vitreous been lost to date.

Miscellaneous

In 1939 it was impressed upon me that specialists may be used in any capacity which the Army and the exigencies of the situation require. Indeed, in four years of service I have enjoyed the variety of acting as P.T. and games officer for 16 months to the exclusion of any clinical work except for frequent "free from infestation" inspections of several hundred troops.

In the Middle East my clinical interest was widened when I was placed for nine months on the roster of surgeons on duty.

During this time it fell to my lot to do six appendicectomies and

some traumatic surgery resulting from local accidents, alcoholic excess, assaults, and the acts of fools.

In June, 1942, and the few anxious months which followed and preceded General Montgomery's offensive at Alamein, it was my privilege to command a rifle company in defence of the hospital against attack from parachutists, fifth columnists, and any native rioting, should this arise. Much attention was paid to key points, fields of fire, and other features of such co-ordinated aggression as we could bring to bear against any opponents.

Such things are temporarily interesting distractions from the small but very pleasant field of eye surgery.

I am indeed grateful to Cpl. W. Buyers, the eye department orderly, whose industry, resourcefulness and constant good humour did so much for our patients and the efficiency of the team.

I thank Brigadier G. I. Scott, Consultant in Ophthalmology, M.E.F., and Colonel H. D. F. Brand, O.C. of the Hospital, for permission to publish this paper.

A SIMPLE METHOD FOR THE EARLY DIAGNOSIS OF ABNORMALITIES OF THE PUPILLARY REACTION

BY

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AN early diagnosis of disturbances of the pupillary reaction in diseases of the central nervous system is frequently extremely difficult. Only complicated apparatuses with cinematographic registration—only available in a few large research departments—can with certainty establish early disturbances of the pupillary reaction; the neurologist has usually to content himself with vague expressions as "pupillary reaction perhaps somewhat sluggish": which do not mean anything definite to him. A disturbance of the normal mechanism of the pupillary reaction, however, is frequently one of the earliest symptoms of a disease of the C.N.S., and of great importance for the diagnosis.

An accidental observation made during slit-lamp examinations demonstrated a way to detect these early disturbances. External factors made it impossible to observe more than a very small number of neurological cases; but these 10 or 12 cases were so convincing and the method seems to be so valuable that its publication may be justified.

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