surgery hours or that self-referral to hospital would hasten treatment; in several instances the patient was unable to contact the family doctor (7.9%) or on doing so was directed to hospital (3.2%). It is unlikely that any emergency service can be organized to be ideal to all concerned, but there does seem to be a disturbing trend in the receiving of "acute" cases. This may be peculiar to the Glasgow Western Area, though the general impression is that it may be a widespread urban problem.

The most satisfactory method of emergency admission is where the patient has been referred by his own family doctor and full discussion on a doctor-to-doctor basis has taken place

between the general practitioner and the hospital junior physician. This kind of referral, however, is slowly decreasing (see Chart). This transfer of decision regarding referral of patients to hospital out of the family doctor's hands into the patient's is to be regretted when one considers what should be the role of the family doctor and the function of the hospital in the community.

I wish to thank Dr. J. D. Olav Kerr, consultant physician in charge of wards, for his encouragement and helpful advice in the preparation of this paper. I am grateful to Miss M. Galbraith, the unit secretary, for her help with the case records.

New Appliances

New Endarterectomy Forceps

Mr. PETER MARTIN, consultant surgeon, Chelmsford Hospital, Essex, writes: During the operation of endarterectomy the sequester is loosened by some form of stripper and a suitable instrument for its extraction is necessary. Desjardins's forceps have been used by many but the jaws on this instrument are not strong enough for this purpose, and if the sequester is adherent over a small segment it cannot be removed.

Because of this Messrs. Thackray were asked to make an instrument on the same lines as Desjardins's forceps but with a different hinge mechanism and also with a suitable curve in the shaft. This they have done (see Fig.), and for the past two years we have been using this instrument and find it of great value for the purpose for which it was designed. The grip on the sequester is strong and, furthermore, it will readily avulse an attached portion of

the diseased intima at the proximal end of the artery being treated. The use of this instrument has facilitated the whole operation considerably.

Arterial Sling Tourniquet : New Method of Clamping Vessels

Mr. D. C. DUNN, lately of St. Albans City Hospital, now at the Department of Surgery, Addenbrooke's Hospital, Cambridge CB2 2AH, writes: The vascular clamps at present in general use are very satisfactory for normal vessels but are

traumatic to arteriosclerotic arteries. As most arterial surgery is carried out on such diseased vessels there is a need for a more gentle method of temporary vascular occlusion. Clamps have been devised to overcome these difficulties, but usually they are difficult to manufacture and are expensive. This note describes a device which is very simple, gentle to arteriosclerotic arteries, easy to use, and inexpensive to manufacture.

During direct arterial surgery it is standard practice to pass

FIG. 1.—Construction of the tourniquet and the method of applying it round an artery.

FIG. 2.—Tourniquet applied round an arteriosclerotic artery. Inflation pushes the soft part of the arterial wall into the hard plaque, occluding the lumen.

a rubber sling around an artery above and below the proposed arteriotomy site. This gives a measure of control and allows accurate positioning of the metal clamps. The slings can be used to control the flow in the artery by traction on them, but this causes an acute kink in the artery with a risk of cracking an intimal plaque. If the sling could be inflated to control the artery metal clamps would not be necessary. It was this idea which gave rise to the device described here.

The device consists of an elongated balloon which is passed round the artery in exactly the same way as a rubber sling (Fig. 1). The balloon is contained by firm backing material applied on its outer aspect. Because of this backing the balloon compresses the artery when inflated. Inflation can be brought about by a medical syringe attached to one of the end-tubes. Either water or air can be used, but water gives better control of pressure.

The tourniquet is prevented from springing open by passing one end of it through a ring attached to the opposite end of the balloon (Fig. 2). The more it is inflated the less likely is this ring to slip.

The pressure is easily and precisely controllable by using the syringe. Once inflated the sling can be kept so by means of a one-way valve or by clamping the inflating tube. Should the balloon fail (which is unlikely) a metal clamp can be applied to the artery just as would normally have been done.

The device has the following advantages: (1) it compresses the artery in the direction of least resistance and is therefore

less likely to crack an intimal plaque (Fig. 2); (2) it is more gentle than an ordinary clamp, even if over-inflated; (3) there are no handles protruding into the wound to catch on sutures; (4) the pressure can be precisely controlled to stop blood flow—in practice this control has been very useful, and is a great advantage of the tourniquet over the clamp; (5) it takes up a minimum of operative "room"; (6) it is almost as easy to apply in difficult situations as is a rubber vascular sling and once applied, control is complete; (7) it can be made in any size for any artery or other vessel; and (8) by adjusting the type and rigidity of the backing it can be used to control other vessels, such as veins, the urethra, or even the bowel.

So far the instrument is still in its development stage, but prototypes have been used successfully in the dog and also on a human patient, in which case it controlled an arteriosclerotic common iliac artery, stopping all flow within it. Further modifications are in progress to make it less clumsy and easier to apply.

I should like to thank Professor G. W. Taylor, of St. Bartholomew's Hospital, London, for trying the device on a patient under his care, and Professor R. Y. Calne and his staff, of the University Department of Surgery, Cambridge, for help with animal trials. The tourniquet is under development by J. G. Franklin and Sons Ltd., and should be in production by next year. I would thank Mr. A. Simpson and Mr. P. Whitbread of Franklin's for their continuing help. A patent is pending.

Unheard Voices

The Anatomist

FROM A SPECIAL CORRESPONDENT

When many of Barnby's friends heard that he was going in for anatomy they told him not to be so stupid and to think again. After five years Dr. Barnby admits that they had a point; although he has enjoyed his time in the anatomy department of a provincial medical school, and has managed to do a lot of what he considers useful research, he believes that unless working conditions in general—and pay in particular—are rapidly improved, the high standards of British anatomy, which are declining at present, will rapidly fall within the next few years. Because of this, although his prospects are good, he is now applying for posts completely outside the subject.

How did he become an academic anatomist, I asked. His interest had started when he had taken a year off after the 2nd M.B. to do a B.Sc. in the subject and had managed to do a research project which had fascinated him. Then, like many other doctors, Barnby had wanted to become a surgeon, and had returned to the department to take a demonstrator's post. Although he passed the Primary, somehow with starting his research projects again and the heavy teaching commitments his original aim became forgotten. He proceeded to the M.D., and three years ago, when he was 28, was appointed a lecturer in the department.

Research Work

At present Dr. Barnby teaches for 12 to 14 hours a week; as well as the 2nd M.B. course his commitments include courses for dentists, pharmacists, and ophthalmic opticians and some examining. The remaining time he spends on research. "But don't get the impression that I'm a 10 to 4 man," Barnby said; "without wanting to sound pompous, I spend at least three evenings a week on research—not necessarily laboratory work but reading up articles and writing papers—and I don't believe I've ever had more than a fortnight's holiday a year." He was fortunate in having his own technician to help him; otherwise the research would slow down, or much of it would have to be abandoned completely. To a question about funds for research he said that he had never been prevented from doing what he wanted. Even so, there had been a shortage of apparatus until the department had acquired some extra money when the student intake was expanded a few years ago. "The thing that really rankles," Barnby continued, "is the fixed limit of £40 per man per year for travelling expenses. Unless one's prepared to pay for oneself—which I personally can't afford—this rules out any conferences abroad. Finally, good secretarial help was almost completely lacking, and it was extremely difficult to get his articles and reports typed at all,