Abstracts

site from which the bone was obtained. The iliac bone just beneath the crest or the crest itself is used. The usual procedure is to turn up the iliac crest with the abdominal muscles attached. This causes a great disturbance of the normal muscular activity employed in respiration, particularly in coughing. The patients are encouraged by a skilled physiotherapist to clear any mucus from the throat, larynx and chest. For the first twenty-four to forty-eight hours the clinical picture is that of an immobile, uncooperative patient. Later the effort to cough becomes less painful, but during the first period much damage may occur to the lungs.

An analysis of the first 16 cases of bone graft showed 9 cases (56 per cent) of respiratory complications of varying degrees of severity. All cases are probably degrees of the same condition, bronchial plugging with resultant collapse and infection.

Apart from bronchoscopy and suction, coughing is the most effective way of clearing the air passages of secretions. Yandell Henderson has shown that pulmonary collapse which follows bronchial plugging can be treated effectively and quickly by carbon dioxide inhalations. Carbon dioxide increases muscle tone, respiratory depth and ciliary action. With improved respiratory movement plugging is less liable to occur. More blocking of the bronchial tree by mucus being drawn further down has not been observed.

Alternate cases were treated with carbon dioxide inhalations. Forty cases not given inhalation treatment showed that 26 (65 per cent) had respiratory trouble. Of 18 cases treated with inhalations of carbon dioxide only 4 (22 per cent) had respiratory trouble. On return to the ward, before recovery of consciousness, carbon dioxide 5 per cent in oxygen is given by catheter down the airway, later by nasal catheter. After return of consciousness a B.L.B. mask is used. The gas is inhaled for ten minutes every waking hour the operative and first postoperative day. During the second day the inhalations are given for ten minutes every three hours and during the third day for ten minutes three times during the day. 4 references.

F. A. M.


Complications and fatalities due to imperfections in technic and in drugs used for spinal analgesia have caused criticism of the method. Cauda equina lesions have occasionally followed spinal analgesia. An investigation of the causes of cauda equina lesions revealed that, prior to 1933, only 16 cases were recorded. Of these 7 followed stovaine, 1 followed 4 per cent novocaine, and the remaining 8 followed unstated analgesics. One case of a mild cauda equina lesion following the use of Chaput's solution (10 per cent stovaine in saline) interested the author in this condition. Records of 5 further cases were collected.

No satisfactory explanation of the cause of cauda equina lesions could be found in investigation of trauma, infection and the action of constituents other than the analgesic agent. The concentration pH and tonicity of various analgesic solutions were studied as well as the role of alteration in pressure of cerebrospinal fluid. All the evidence incriminates the use of concentrated solutions which are kept in contact with the sacral roots for a long period.

Amethocaine produces analgesia more intense than with other agents. Its action is quicker than that of nupercaine and clinically its effects are equally long lasting. A preparation to be marketed as "Spinal D. Isotonic"
was prepared and used. The formula consists of:

"Amethocaine 0.02 g i.e. 0.4%  
Dextrose 0.23 g i.e. 4.6%  
Water to 5.0 c.c.m.  
Specific gravity 1018 pH 5.0"

The full spinal dose of amethocaine is considered to be 20 mg. Two hundred administrations of this solution have resulted in no prominent neurological sequelae. This preparation should be safer than any other "heavy" solution so far employed. 14 references.

F. A. M.


Technical perfection in intranasal operations can most easily be achieved under local analgesia. After premedication with morphia and hyoscine the patient's nares are cleaned with spirit and three positions assumed by the patient during the injection of the analgesic. "Two c.c.m. of 8.0 per cent cocaine hydrochloride; 2 c.c.m. of 1.0 per cent sodium bicarbonate; 1 c.c.m. of 1/1000 solution adrenaline hydrochloride, are mixed together in a tot. This produces 5 c.c.m. of analgesic solution of which 1 c.c.m. is adrenaline, 4 c.c.m. is a mixture of 4.0 per cent cocaine and 0.5 per cent sodium bicarbonate.

The patient assumes each of three positions for ten minute periods. Lying on his left side with a pillow under his left shoulder the head is allowed to drop in the strictly lateral position until it assumes an angle of 45 degrees. One-third of the analgesic solution is divided equally between the two sides of the nose by introducing a special needle along the floor of the nasal cavities and depositing the solution. After ten minutes the second one-third of solution is deposited into the nostrils and the patient pinches his nose and rolls forward on his face. After ten minutes in this position the patient, still pinching the nostrils, rolls directly from the prone position onto the right side. The last of the solution is then inserted into the nostrils. Deep and lasting analgesia results.

F. A. M.


In order to have the cooperation of the patient after section of the nerve in operations for the relief of intractable pain, an interrupted form of anesthesia was developed. Premedication with omnopon and hyoscine was given one hour before operation. The patient was placed in position on the table and the operation explained to him. Local infiltration of 1 per cent procaine into the operation site was started by the surgeon while the anesthetist started the intravenous injection of 5 per cent solution of pentothal sodium. Light anesthesia was maintained by intermittent injection of pentothal into a continuous drip saline. As soon as the section was considered satisfactory, the patient was awakened by intravenous injection of coramine, 2 c.c.m. every two minutes, until the patient answered questions sensibly or by the intravenous injection of picrotoxin grs. 1/25 every two minutes. When the area of skin analgesia was mapped out anesthesia was again produced with pentothal for closure of the wound.

Young service patients with peripheral nerve injuries were operated under identical technic but with unsatisfactory results. During the period of wakening to test the conductivity of the nerve, a belligerent and an uncooperative state of mind made careful analysis impossible. After premedica-