tension mediated by histamine H₁ and H₂ receptors in the peripheral vasculature, as well as directly via the myocardial histamine H₂ receptors demonstrated in vitro (Wolfe and Papp, 1979, Agents Actions, 9, 29).

135 MICROMETHODS FOR LIPID ANALYSIS OF HUMAN LIVER NEEDLE-BIOSPY SAMPLES
S.R. CAIRNS AND T.J. PETERS
Division of Clinical Cell Biology, MBC Clinical Research Centre, Watford Road, Harrow, Middlesex, UK

Fatty liver is a common pathological finding occurring in a wide variety of disorders including alcohol abuse, diabetes mellitus, kwashiorkor and obesity. Little is known of the detailed nature of the accumulated lipids (S. Laurell & A. Lundquist, 1971, Acta Med Scand. 192, 65-68), therefore, micromethods have been developed for the separation and quantitation of free cholesterol, total cholesteryl ester, triglyceride, free fatty acid and total phospholipid from needle-biopsy specimens of the human liver. Approximately 10 mg of tissue is extracted in chloroform:methanol (2:1 v/v) and the lipids separated by thin layer chromatography in a developing solvent of hexane:diethyl ether:chloroform:methanol (2:1 v/v) and the lipids therefrom extracted and assayed by specific microassays (B. Bowyer & J. King, 1977, J. Chromatogr. 145, 475-490) adopted for use with these samples. Recovery of the internal standard, cholesteryl acetate, was approximately 75% and detectable levels of all lipids were found. Triglyceride levels correlated with the amount of fat seen histologically. There was no correlation between levels of free cholesterol, cholesteryl ester, phospholipid and the degree of fatty liver. An elevation in concentration of free fatty acids was seen in certain patients and this may relate to hepatotoxicity. The development of these techniques provides a new approach to the elucidation of the biochemical pathology of fatty liver.

136 A VALIDATION OF THE REMLER M2000 AND AVIONIC 1978 PRESSUROMETER
Northwick Park Hospital & Clinical Research Centre, Harrow, Middlesex, HA1 3UJ

Ambulatory blood pressure has been advocated to provide epidemiological information and as an adjunct to clinic measurements, but the reliability and accuracy of automated machines has proved disappointing. We have compared the Remler M2000 and Avionics 1978 pressurometer with simultaneous intra-arterial blood pressures in the laboratory and at home using the Oxford system for continuous monitoring. We found a systematic error of 3/2 mm Hg 'Remler - Intra-arterial BP' and of -2/4 mm Hg 'Clinic - Remler' and a systematic error of -2/-1 mm Hg 'Avionics - Intra-arterial BP' and of 3/8 mm Hg 'Clinic BP - Avionics'. Plots and frequency histograms showed a wide scatter when comparing blood pressures recorded by both automated machines against intra-arterial and against clinic blood pressures. Discrepancy values ranged from -30 to +30 mm Hg in comparison with intra-arterial pressures and simultaneous clinic pressures respectively. These data are similar to results obtained with self-recorded pressures. We conclude that these automated machines provide no advantage over self-recorded pressures and are subject to systematic errors.

137 CHANGES IN BODY COMPOSITION DURING PRE OPERATIVE INTRAVENOUS AND ENTERAL NUTRITION
PJ FABRICIUS HM JAMES PC HAWKER AND PW DYKES
Gastroenterology Unit
The General Hospital, Birmingham B4 6NH

Measurements have been made of whole body potassium (40k counting), water (tritium dilution), extra cellular fluid (Bromide dilution) and fat (9 site skinfold thickness) to study the changes in body composition during refuelling of malnourished patients, mostly admitted to a larger and continuing randomised clinical trial of the value of pre-operative supplementary nutrition. The patients had previously lost 10-30% of their body weight, and during 21 days of feeding they gained a mean of 6.7kg (135). Whole body potassium increased by 330 moles (P < 0.01) and body water by 3.2l (P < 0.01) but extra cellular fluid volume did not change significantly (40.25). Cell mass calculated from potassium increased by 2.95i supporting the observation that the fluid gained was intracellular.

All patients were in positive balance (mean +121 grams) and there was a good correlation (r=0.06) between nitrogen balance and change in whole body nitrogen calculated from potassium. However in all patients with malignant disease the serum albumin concentration fell by a mean of 3g/1 (P < 0.01). Body fat increased by 2.12kg (P < 0.02).

Thus preoperative supplementary feeding produces an increase in cell water associated with nitrogen and potassium and also in fat.