infants and adults who were taking ampicillin, but no detectable amounts of ampicillin were found after chromatography.

Marked Variations in Serum Bilirubin Levels Between Spectrophotometric and Diazo-coupling Methods when Applied to Serum from One Premature Infant on Ampicillin 50 mg. (Twice Daily)

Day	Time	Diazo Method mg./100 ml.	Spectrophotometric Method mg./100 ml.	Difference
1	09.30	10.5	9.5	-1.0
2	09.30 12.00	18.0 14.0	12.1 12.8	+5.9 +1.2
3	09.30 pre-transfusion post-transfusion	22.4 19.4 9.2	15.0 15.5 8.3	+7.4 -3.9 -0.9
4	09.30 12.00 15.30	19.4 19.4 15.6	13.7 14.7 14.7	-5.7 -4.7 -0.9
5	09.30 Taken off drug 12.00	18.4	14.2	+4.2
6	11.30	16.0	13.1	+2.9
7	09.30	14.0	14.5	-0.5

Work by Stewart and Harrison¹ has shown in rats that ampicillin after absorption is excreted very rapidly into the bile, and that bile levels can read 40-times peak serum concentrations. It could perhaps be suggested in certain premature infants with perhaps bile duct obstruction and/or liver enzyme deficiencies that serum levels of ampicillin could build up to levels which could produce a "falsely high" bilirubin result when estimated by a diazo-coupling reaction as opposed to a direct spectrophotometric measurement of bilirubin.

I feel, therefore, that a spectrophotometric method is quick and easy to perform, requires the minimum amount of serum, and probably suffers less from interference from extraneous sources than do colorimetric methods which depend on "diazo-coupling" reactions.—I am, etc.,

A. W. STOTT.

Biochemistry Department,
Scarborough Hospital,
Scarborough.

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Vitamin C and the Elderly

SIR,—In their paper "Vitamin C Supplementation in the Elderly" (17 May, p. 416), Dr. J. Andrews and others make the point that an average of nine months' supplementation with ascorbic acid is required with doses of 40 mg. or 80 mg. daily to bring the ascorbic acid content of leucocytes in elderly people to levels comparable with those found in younger people.

It is important to stress that with larger daily doses of ascorbic acid this process can be considerably accelerated. In a study carried out on long-stay geriatric hospital patients¹ it was shown that daily supplementation of the diet with 200 mg. of ascorbic acid achieved levels well above those

of the average younger person, within three months—as shown in the accompanying table. These high levels of ascorbic acid in leucocytes were maintained throughout the period of supplementation.

Period of Supplementation with 200 mg. Ascorbic Acid Daily	Mean Leucocyte-Ascorbic Acid Level of 40 Long-stay Geriatric Hospital Patients ($\mu\text{g.}/10^9$ W.B.C.)
0 months	13.6
3 months	43.4
6 months	56.5
9 months	54.0
12 months	57.9

Average level in younger people—26 $\mu\text{g.}$ ascorbic acid/ 10^9 W.B.C.

We suggest that if dietary supplementation with ascorbic acid is to be used in elderly people then the dose should be 200 mg. daily, at least for the first month.—We are, etc.,

J. C. BROCKLEHURST.
L. L. GRIFFITHS.

Farnborough Hospital,
Kent.

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Pin or Prosthesis?

SIR,—Your correspondents (10 May, p. 384, and 31 May, p. 575) on the controversial subject of "Pin or Prosthesis?" (26 April, p. 201) have aligned themselves in favour of one method versus the other. I am writing to suggest that the two methods may not be mutually exclusive and that there is a place for both.

It seems to me that in such a multifactorial problem as fracture of the neck of the femur no one method has clearly emerged as superior to others in every respect, and that to treat all cases by one method regardless may not be best for the individual patient.

Those who favour prosthetic replacement in patients over 70 years of age wax more enthusiastic the older the patient. The prosthesis is less likely to fail from wear and it is thought that the greater early mobility obtained automatically improves the ultimate prognosis. I feel that there is an "end-point" and that the prognosis of the older, frail patient is better with fixation than replacement. The one certain advantage of the prosthesis is that non-union and avascular necrosis are precluded. This advantage is less important in the elderly and has to be paid for if one believes that prosthetic replacement is a more "shocking" operation than nailing.

It may be that too much is expected of the patient with the prosthesis in situ, who is then considered "cured." She may well be allowed to use her prosthesis rather more, soon after a major operation, than is good for her general health. In addition, the change of environment to home surroundings soon after operation, attractive as it sounds, must place another physical and emotional burden on a person with already low reserves. The patient with frail fixation is not "cured." She can be allowed to sit out just as early, since there is no risk of dislocation, and to make more gradual progress at her own rate. Her rehabilitation is more gradual and probably better suited to her

age and condition. I think this may be one reason why elderly patients with prostheses do very well or very badly while those with fixation probably on average fare better, although making a slower and less spectacular recovery.—I am, etc.,

R. T. AUSTIN.

Birmingham Accident
Hospital and Rehabilitation
Centre,
Birmingham.

SIR,—I cannot agree that fractures of the neck of the femur are still best treated by trifin nails (26 April, p. 201). As long ago as 1954 Haboush¹ demonstrated convincingly that shaft fixation was essential and that the so-called bull's-eye position with the nail in the anatomical axis was comparatively ineffective. Moreover, nails have to be hammered in and some femoral heads do not take kindly to this pile driving. A screw is far less damaging.

As a result of laboratory experiments and clinical experience I consider that patients who are suffering from senile osteoporosis or rheumatoid arthritis are best treated by immediate prosthetic replacement—total if the patient has a reasonable expectation of life, partial if he is decrepit. This statement is made despite the figures published by G. A. Hunter.² In his series of 94 cases infection supervened 21 times. The only conclusion your leader writer can draw from these figures is that in Hunter's series the sepsis rate was high.

Patients whose hips are considered mechanically sound are in my opinion best treated by internal fixation with a sliding pin. This is a difficult operation and requires scrupulous attention to detail. A successful case three years after injury is shown in the Figure. Yet a biopsy from the centre of the femoral head taken at the time of internal fixation showed dead bone. It is therefore possible that the viability of the cancellous bone in the femoral head is less important than its mechanical strength. It may well be that avascular necrosis of the head of the femur is in the nature of a crush fracture which may affect dead as well as living bone. Investigation of the specific gravity of femoral head biopsy specimens from the centre of the