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CORRESPONDENCE

Correspondents are urged to write briefly so that readers may be offered as wide a selection of letters as possible. So many are now being received that the omission of some is inevitable. Letters should be signed personally by all their authors.

Risks of Total Hip Replacement

SIR,—Your leading article (10 May, p. 296), and the letter from Mr. P. A. Ring (24 May, p. 442) have drawn attention to certain problems—for example, metal sensitivity and sepsis—which are presently not fully understood. These problems are applicable to all prosthetic replacements. There are also other problems which should be considered when using highly stressed implants such as femoral components which are subject to fatigue conditions. These components are available in stainless steel, cobalt chromium molybdenum alloy, and titanium alloy. Their mechanical properties depend on a combination of factors such as design, type of metal used, and method of manufacture. For a consistent product there must also be an adequate system of surveillance of manufacture in operation.

Fracture of the stem of femoral components has occurred. We do not know the fatigue properties of many of the various designs of components available. This lack of knowledge is in part due to the fact that implants can be used in patients without adequate laboratory evaluation. In engineering practice fatigue studies of a highly stressed component, a failure of which, if it occurred, might involve personal injury, would be undertaken. Thousands of femoral components are being used annually in patients throughout the world and yet it is not mandatory for either designers or manufacturers of implants to carry out the necessary investigations. Representation has been made to various responsible bodies regarding the present state of affairs with little success. The reason for the indecision is that the studies are relatively costly and there is not general agreement concerning the methods of testing.

The establishment of a national total joint replacement register proposed by Mr. Ring, required if there is to be correlation between laboratory testing and clinical practice, has been considered by the Department of Health and Social Security at the request of the technical committee of the British Standards Institution dealing with surgical implants. The matter has been referred to the British Orthopaedic Association.

Surveillance of manufacture, certain laboratory studies and tests, particularly relating to wear, fatigue, and corrosion of components, and the setting up of a national register of total joint replacements which will provide a continuous feedback of information concerning the clinical performance of total joint replacements and the response of the tissues to the presence of these massive foreign bodies and the products of wear are matters which require urgent attention. Only the Department of Health and Social Security can initiate and finance the necessary comprehensive programme.—We are, etc.,

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Prognostic Indications in Cancer

SIR,—In recent years there has been considerable interest in the interplay between the immune system of the host and the growing tumour, and the possibility of developing immunological tests for prognosis in cancer has received much attention. Several workers have assessed delayed hypersensitivity skin reactions to common recall antigens,[1] to tumour-specific antigenic extracts,[2] or to skin-sensitizing agents such as dinitrofluorobenzene (DNFB)[3] in cancer patients and have found that low-grade reactivity correlates well with reduced survival. However, few centres employ skin tests in routine prognostic investigations.

In an ongoing study of immunological reactions in patients with operable mammary carcinoma[4] we have found a significant correlation between skin test anergy to P.P.D., candida, and streptokinase-streptodornase and the absence of both lymphocytic infiltration of the primary tumour and lymphocyte stimulation in the tumour-draining lymph nodes, the latter being assessed by the criteria of Tsakraklides *et al.*[5] Of 30 patients with infiltration of the tumour by lymphocytes, only two failed to give positive delayed cutaneous hypersensitivity reactions to at least one of the skin test antigens, while one out of 25 patients with lymph node stimulation but no lymphocytic infiltration of the tumour was anergic. This gave a total of three out of 55 (5%) patients anergic by skin test but reactive by histopathology. Only six patients had neither infiltration of the tumour by lymphocytes nor reactive lymph nodes, and three of these were anergic on skin testing. A further 21 patients had no tumour infiltration with metastatic replacement of lymph nodes, and seven of these failed to react to P.P.D., candida, and streptokinase-streptodornase. Skin test anergy was therefore seen in 10 out of 27 (37%) patients with no demonstrable lymphocyte reactivity against the