were engorged with iron-containing particles. Subsequently free particulate material disappeared from the lungs, but particle-containing macrophages were still present after 75 days. Initially there were minor inflammatory changes in lung tissue, with slight peribronchial oedema and epithelial thickening. Welding fume material was also observed in the gastrointestinal tract.

Concentrations of elements present in the welding fumes, such as iron, cobalt, chromium and antimony, were significantly increased in lung tissue. Concentrations of iron in lung tissue decreased slowly over 75 days, but cobalt, chromium and antimony concentrations decreased more rapidly, probably by elution from retained particles. Cobalt levels in liver tissue were significantly increased after 24 h. These results suggest the possibility that tissues in the vicinity of inhaled welding fume deposits may be exposed to high local concentrations of some toxic elements. This may be of interest in relation to the aetiology of respiratory distress experienced by workers exposed occupationally to welding fumes.

Toxicological evaluation of surgical dressings

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The widespread use of plastic materials in medical and veterinary practice has necessitated the development of some methods for evaluating their safety in use. One such use of these substances is in the adhesive coating of new types of non-woven surgical dressing products with polymeric substances. Such additives and other materials added to aid fluid absorbtion could, if transferred from fabric to patient, give rise to adverse effects. A method has been developed whereby the extractable compounds are eluted from the fabric sample under reproducible extraction conditions and subjected to chemical analysis and animal toxicological studies. The extraction method will be demonstrated and consists basically of a syringe barrel fitted into a constant temperature water bath ; the compressed air ram which operates the piston exerts a pressure on the fabric saturated with a fixed volume of solvent. The resulting extract is collected and examined using suitable test systems.

The effect of experimental conditions on total urinary catecholamine excretion in the rat

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Measurements of urinary catecholamine levels have frequently been used as a measure of sympathetic nervous activity in experimental animals. The metabolites of these substances are, however, excreted in much greater quantities ; the major metabolite in rats, hydroxymethoxyphenylglycol (H.M.P.G.) constitutes approximately 80% of the total excretion of catecholamines and metabolites (Ceasar, Ruthven & Sandler, 1969 ; Shum, Johnson & Flattery, 1971). In both of these studies urine was collected from male Wistar rats, in the former case maintained isolated and fasted, whilst in the latter case groups of four animals were used.