

PENICILLIN.

The following valuable information has been issued by the Ministry of Health.

INDICATIONS FOR ITS USE AND METHODS OF ADMINISTRATION.

INDICATIONS—

I. The suitability of a case for treatment with penicillin depends not so much on the nature of the disease as on the susceptibility of the micro-organism causing it; some species are highly susceptible and others far too resistant for this treatment to have any effect. It follows that in diseases which may be caused by any of several different bacteria (*e.g.* meningitis, peritonitis) a bacteriological diagnosis is usually necessary if treatment is to be undertaken with any assurance of success.

The chief organisms susceptible to penicillin are:—

Gonococcus	Pneumococcus
Meningococcus	C. diphtheria
Streptococcus pyogenes	Clostridia of gas-gangrene
Streptococcus viridans (most pathogenic strains)	Spirochaetes of syphilis and relapsing fever: possibly of Weil's disease
Staphylococcus aureus	Actinomyces B. Anthracis.

II. *Penicillin is indicated* in the treatment of the following conditions when due to a susceptible organism unless the infection is likely to respond rapidly to sulphonamides:

(a) Septicaemia	(systemic administration)
(b) Puerperal sepsis	" "
(c) Acute cellulitis	" "
(d) Acute osteomyelitis	" "
(e) Cavernous and lateral sinus thrombosis	" "
(f) Pneumonia	" "
(g) Meningitis	(intrathecal injection often combined with systemic administration)
(h) Carbuncles and acute abscess	(systemic or local administration)
(i) Certain types of empyemata	(intrapleural injection)
(j) Suppurative arthritis	(intra articular injection sometimes combined with systemic administration)
(k) Anthrax	(systemic administration)
(l) Actinomycosis	" "
(m) Gonorrhoea, acute and chronic	" "
(n) Gas gangrene and "malignant oedema"	" "
(o) Other acute infections due to organisms sensitive to penicillin but resistant to sulphonamides.	

III. *Penicillin is often of value* in the following conditions:—

(a) Burns	(cream or spray)
(b) Sycosis barbae	" "
(c) Impetigo	" "
(d) Dermatitis with infection	" "
(e) Conjunctivitis and infections of cornea.	(eye drop cream or lamellae)
(f) Infected wounds	(powder, cream, or in solution)

- (g) Encouraging results have recently been obtained in infections of the mouth and throat using pastilles containing penicillin.
- (h) Penicillin may be used as a prophylactic agent in wounds exposed to infection.
- (i) Infections of the urinary tract due to sensitive organisms (systemic administration).

IV. *Penicillin may be of value* in the following diseases, but its place in relation to other forms of treatment has not yet been defined:—

- (a) Syphilis
- (b) Subacute bacterial endocarditis
- (c) Diphtheria
- (d) Acute mastoiditis and otitis media
- (e) Peritonitis
- (f) Chronic osteomyelitis.

V. *Penicillin is of doubtful value or of no value* in the following conditions for which it should *not* be used:—

- (a) Tuberculosis
- (b) Acute Rheumatic Fever
- (c) Rheumatoid Arthritis
- (d) Ulcerative colitis
- (e) Infections caused by viruses such as influenza, anterior poliomyelitis and encephalitis lethargica.
- (f) All gram negative bacillary infections such as typhoid fever, dysentery, undulant fever, and infections with *Bact. coli*, *H. Influenzae*, *Proteus*, *Ps. pyocyaneae*, and *Bact. Friedlander*.
- (g) Glandular fever
- (h) Pemphigus
- (i) Hodgkins disease and the reticuloses
- (j) Leukaemia
- (k) Malaria
- (l) Cancer

ADMINISTRATION.

Unless the following properties of penicillin are appreciated, unsatisfactory therapeutic results are likely to be obtained and wastage of this expensive drug is bound to occur:—

(a) Once penicillin has been removed from the ampoule or tube it is likely to deteriorate, particularly if exposed to moisture or heat.

Solutions or other preparations of penicillin exposed to air and kept at room temperature will not deteriorate significantly in 24 hours, but should not be kept for more than 48 hours under these conditions.

(b) Penicillin is rapidly destroyed by boiling, by most antiseptics, and by enzymes of many of the common air bacteria.

(c) Penicillin should not be given by the mouth.

(d) Penicillin passes rapidly from the blood into vascular tissues, but the serous membranes and meninges present a barrier which penicillin does not readily penetrate.

(e) Penicillin is rapidly excreted in the urine; for this reason it must be given at frequent intervals or continuously.

(f) The diffusion of penicillin into dead or avascular tissues is slow; sequestra, large sloughs, or collections of pus, are, therefore, likely to harbour bacteria out of reach of the drug, and these usually have to be removed if treatment is to be effective.

This leaflet gives further information (1) on Systemic Administration; (2) Local Application, to which we hope to refer in our next issue. Further instructions regarding the use of penicillin in the treatment of V.D. are in course of preparation, and will be issued in due course to all V.D. authorities.

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