

in early cases, by *counter-irritation* with a mild mustard and flour poultice.

4. A due supply of *chlorides* by saline infusion (Henry's method), alkaline-saline beverage (author's method), or the administration of a mixture of the chlorides in capsule, followed by copious drafts of water (Quimby's method).

5. Such additional measures of *elimination* (and *alkalinization*) as may be necessary.

6. *Cleansing and* (relative) *disinfection of the upper air passages* by local applications to the throat and nose (phenol-iodine-glycerine or silver preparations), or by continuous inhalation (from the perforated zinc respirator of Yeo) of volatile antiseptics, stimulating or sedative (*e.g.* ethyl iodide, creosote, chloroform, terebinthines).

This represents a *groundwork* upon which certain *definite* medication is superimposed.

B. SPECIAL:

1. ANTITOXIC AGENT. Quinine is given *promptly in massive and repeated doses* (for a vigorous adult, 1.6 to 1 gm. (25 to 15 grains) *circa q. iii h.*) with *progressive lessening of quantity and increase of interval*, according to effect; the drug being intermitted when the temperature (taken in the mouth) tends to remain below 102.5°F., and resumed when it tends to rise above 103°F. The temperature curve, however, is taken as an *index only*, since the treatment is not designedly antipyretic; and temperatures too low are not desirable. This medication may be kept up for one, two, or three days. There may be one dose of quinine only, or so many as fifteen. The rule is effect, not quantity—*enough and no more*. Perhaps four to five doses is a fair "average." Quinine and urea hydrochloride (25 to 50 per cent. recent (sterile) solution*) and *intramuscular injection* (through the *iodized skin*†) have been chosen as, on the whole, the most effective preparation and method; but other quinine salts, and administration by the mouth, are likewise employed. It is possible that other cinchona derivatives, for example *methyl-hydro-cuprein* (hydroquinine) *hydrochloride* may prove useful. The narrow interval between the toxic dose and the therapeutic dose of *ethyl-hydrocuprein* (optochin), however, inhibits the general use of this drug and its salts at present, despite their high bactericidal power. Some modification of the molecule may remove this drawback, and is a worthy objective of experiment.

*It is best made extemporaneously with boiling water, and used at a moderate heat.

†The point of puncture should be sealed with collodionized cotton.