

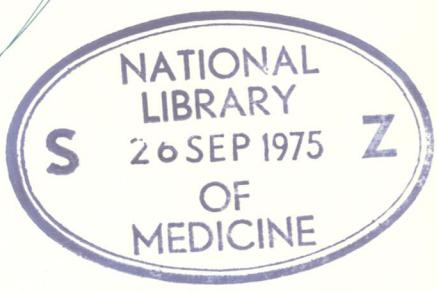
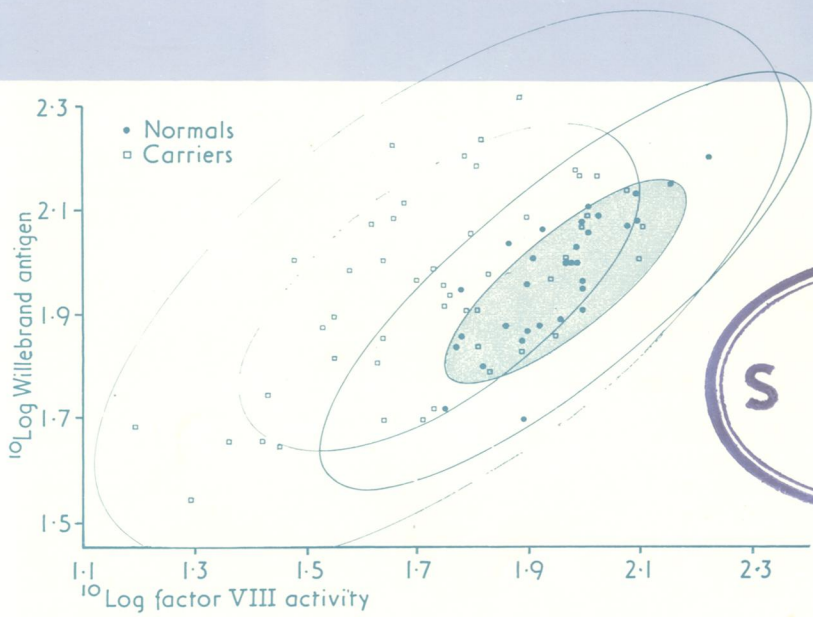
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Dispersion diagram of Willebrand antigen and factor VIII activity in normals and carriers, with 50 (inner) and 95% tolerance ellipses.

$$\lambda^2 = \frac{1}{1 - \rho^2} \left[\left(\frac{x - \bar{x}}{s_x} \right)^2 - 2\rho \left(\frac{(x - \bar{x})(y - \bar{y})}{s_x s_y} \right) + \left(\frac{(y - \bar{y})}{s_y} \right)^2 \right]$$

- λ^2 = statistical distance (see Methods)
- ρ = correlation coefficient
- x = factor VIII activity
- y = Willebrand antigen
- s = standard deviation

The equation shows that each value of λ^2 corresponds to an ellipse. For increasing values of λ^2 , these ellipses contain an increasing percentage of the samples studied. See fig 2, page 693.