about 160 per cent higher level of unsaturated iron-binding capacity than the non-heparinized serum. This fact indicated that the heparin interfered with the absorbance capacity of sponge.

9) Per cent of resin-sponge uptake; Our uptake rate was 91.7 per cent, that was lower level than 95.0 per cent described on each lot. There are two possibilities for this variation; one depends on the variety of lot, the other depends on a depletion of the absorbance capacity of sponge after production.

Therefore the correction of the factor of 1.05 which depends on the sponge uptake is necessary in each lot of sponge.

10) Comparison of Irosorb-59 Kit and Tauxe' method; Correlated relationship was observed between the level of unsaturated iron-binding capacity obtained from Irosorb-59 Kit method and Tauxe' method:

$$Y = 1.33X - 60$$

Testing of Irosorb Kit

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The Irosorb value was higher than the previously accepted UIBC value determined by Schade's Peters' etc. For the elimination of free iron in serum, IRA 410 granular resin, $MgCO_3$ powder, and Sephadex G25 fine were used. The UIBC values other than Irosorb showed almost the same results, around 200 μg/100ml in normal, while Irosorb showed 338 μg/100ml in 34 normal tested twice. This high Irosorb value is due to the poor absorbability of resin in Irosorb sponge. The difference between Irosorb value and UIBC by the other methods were scattered high with a wide range; the lower the UIBC the higher the difference and scattered. Therefore the correction of Irosorb value with any factor was thought impossible. The way to obtain a correct value without applying correction factor would be to increase the amount of resin 5 times, or to reduce the serum and ^{59}FeFe solution to 0.2 ml each which is within the capacity of one Irosorb resin sponge. However the reduction of the test serum and UIBC solution for one spnoge resulted in the increase of technical error.

Incubation time may be reduced at the temperature of 37°C, but the simplicity of the method would be lost to a certain extent. Interference of binding of iron to resin sponge was observed when heparin was used. This is another shortage, since many hematologists would like to withdraw blood with heparin frequently.

Studies on Total Iron Binding Capacity (TIBC)

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TIBC has been determined by adding UIBC and SI so far. UIBC has been determined with ^{59}FeFe solution and resin, and SI by colorimetry. SI measured by radioisotope dilution technique was not accurate. The elimination of SI from transferrin was 96% with charcoal at pH 5.0. However the rebinding of iron to transferrin determined by immunoassay was equivalent to TIBC obtained by adding SI (colorimetric) and UIBC (Peters).

The elimination with desferrioxamine was