CALCULATION OF CCR WITHOUT A URINE SPECIMEN
(LANCET 11:710, 1971)

$$\Delta C = P - E$$

$$\Delta C (\text{MG/DAY}) = 0.4W(C2-C1) / \text{DAYS BETWEEN C1 AND C2}$$

$$P1 = E = 29.305 - 0.203A \quad (\text{ADJUSTING FOR AGE})$$
CP = 1344 - 43.76C  (ADJUSTING FOR UREMIA ITSELF)

R = P2/P3 WHEN

P2 = 1344.3 - 43.76 \times C_{AVG}, AND

P3 = 1344.3 - 43.76 \times 1.1

P4 = P1 \times R

P = P4 \times \text{BODY WT IN KG, (ADJUSTING FOR WEIGHT)}

TAKING 90\% OF P FOR WOMEN, WITH SMALLER MUSCLE MASS, (ADJUSTING FOR SEX)
\[ C_{\text{PLASMA}} \times \text{VOL PLASMA CLEARED} / \text{DAY} = C_{\text{URINE}} \times \text{VOL URINE EXCRETED} / \text{DAY} \]

\[ C_{\text{PLASMA}} \times \text{CCR PER MIN} \times 1440 = 24 \text{ HR URINE EXCRETION} \]

And so in general,

\[ .4W(C2-C1)/\text{DAYS} = P - C_{\text{AVG}} \times \text{CCR} \times 1440 \]

W is in hundreds of grams,
CCR is in hundreds of ml per min
ERRORS IN CLASSICAL MEASUREMENT OF CCR
CV OF SERUM CREAT = 5%
CV OF URINE CREAT = 8%
IF ONE COLLECTS URINE VOL WITH CV OF 5%, THEN
CCR HAS CV OF 11%, OR 95% CONF LIMITS OF 22%
• Estimated vs Measured CCr