| **Clinical Calculators** | **Med**Calc: Hemodialysis - Kt/V and URR   | | Dialyzer Urea  Clearance **(K) :** | L/min | Dialysis Time **(t) :** | minutes hours | | --- | --- | --- | --- | | Height : | cm meters inches feet | Weight : | kilograms pounds | | Age : | years | Gender : | female male | | Target Kt/V : |  | Diabetes? | no yes | |  | | | | | **Urea Volume Distrib (V)**  Watson formula Hume-Weyer formula Bioelectrical impedance Mellits-Cheek formula (kids) 0.6 x weight  **:** | | liters | | | **Kt/V :** | |  | | | | Pre-dialysis BUN : | mg/dL | | --- | --- | | Post-dialysis BUN : | mg/dL | | Post-dialysis Weight : | kilograms pounds | | Ultrafiltrate Removed : | liters | |  | | | Urea Reduction Ratio : | % | | Kt/V : |  | | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |  | Watson : | Male TBW = | 2.447 - (0.09156 x age) + (0.1074 x height) + (0.3362 x weight) | | --- | --- | --- | | Female TBW = | -2.097 + (0.1069 x height) + (0.2466 x weight) | | Hume-Weyers : | Male TBW = | (0.194786 x height) + (0.296785 x weight) - 14.012934 | | Female TBW = | (0.34454 x height) + (0.183809 x weight) - 35.270121 | | Chertow's Bioelectrical Impedance: | | | |  | TBW = | ht x (0.0186104 x wt + 0.12703384) + wt x (0.11262857 x male + 0.00104135 x age - 0.00067247 x wt - 0.04012056) - age x (0.03486146 x male + 0.07493713) - male x 1.01767992 + diabetes x 0.57894981 | | Mellits-Cheek (kids) : | Boys TBW | = -1.927 + 0.465 x weight + 0.045 x height, **for height < 132.7 cm** | | = -21.993 + 0.406 x weight + 0.209 x height, **for height > 132.7 cm** | | Girls TBW | = 0.076 + 0.507 x weight + 0.013 x height, **for height < 110.8 cm** | | = -10.313 + 0.252 x weight + 0.154 x height, **for height > 110.8 cm** | | **Urea Reduction Ratio :** URR = (1 - | | | post-BUN | ) x 100 | | --- | --- | |  | | pre-BUN | | | **Daugirdas :** Kt/V = -ln( | | | post-BUN | - 0.03) + (4 - 3.5 x | post-BUN | ) x | UF | | --- | --- | --- | --- | --- | |  |  |  | | pre-BUN | pre-BUN | weight | | | **Hume R, Weyers E.** Relationship between total body water and surface area in normal and obese subjects. *J Clin Pathol* 24:234-238, 1971.  **Watson PE, Watson ID, Batt RD.** Total body water volumes for adult males and females estimated from simple anthropometric measurements. A*m J Clin Nutr* 33:27-39, 1980.  **Chertow GM, Lowrie EG, Lew NL, Lazarus JM.** Development of a population-specific regression equation to estimate total body water in hemodialysis patients. *Kid Int* 51:1578-1582, 1997.  **Daugirdas JT.** Second generation logarithmic estimates of single-pool variable volume Kt/V: an analysis of error. *J Am Soc Nephrol* 4:1205-1213, 1993. | | |   DISCLAIMER: All calculations must be confirmed before use. The authors make no claims of the accuracy of the information contained herein; and these suggested doses are not a substitute for clinical judgement. Neither MedCalc.com nor any other party involved in the preparation or publication of this site shall be liable for any special, consequential, or exemplary damages resulting in whole or part from any user's use of or reliance upon this material.  Copyright � 1999-2022  [MedCalc.com](mailto:webmaster@medcalc.com)  Created: Monday, November 5, 2001  Last Modified: Wednesday, January 27, 2010 |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |

General

Cardiology

Drugs / Pharm

Fluids / Electrolytes

Obstetrics

Pediatrics

Pulmonary

Renal

Age / Date Calc

Baysean Analysis

Blank Calendar

Body Mass Index

Heparin Protocol

Weights & Measures

Endocarditis: Duke

Heart Disease Risk

Heparin Protocol

Periop Cardiac Eval

QT Corrected

Dextrose IV Convert 

Ingested Substances

IV Rate

Narcotic Converter

Steroid Converter

Vancomycin PK 

Anion Gap

Dextrose IV Convert 

FeNa & TTKG

Free Water Deficit

Hypo/Hypernatremia 

IV Rate

NICU: Fluids

NICU: Quick Drip

NICU: Quick IV

Osmolality (Serum)

Pedi Fluids

Sodium Corrected

Total Body Water

Pregnancy Dates

Pregnancy Wheel

APGAR Scores

Ballard Score

Dosing Calc

Fluids - Pedi

GFR - Pedi

Growth Charts 

Immunizations

NICU Fluids

NICU: Quick Drip

NICU: Quick IV

ABG Calculator

A-a Gradient

Oxygen Index

Creatinine Clear

FeNa & TTKG

Free Water Deficit

GFR - Adult

GFR - Pedi

Hypo/Hypernatremia 

Kt/V and URR

Sodium Corrected

Total Body Water

Urea Vol Distrib