

SPOT URINARY OSMOLALITY: CREATININE RATIO IN HEALTHY HUMANS

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Spot urine albumin/ creatinine ratio is a reliable estimate of 24-hour urine albumin excretion since it accounts for the variability in urine concentrations over time. Similarly urine osmolality: creatinine (Osm/cr) ratio of a spot urine sample may give an overall estimate of urinary excretion of solutes and renal concentrating ability. We have previously presented data to support that urine Osm/cr in healthy adults is a reproducible entity. The objective of this study was to establish influence of age, sex, body weight and height on spot urine Osm/cr ratio in healthy humans.

Two hundred and thirty two healthy volunteers participated. They were stratified to 7 age groups (a) 1.5-5 years, (b) > 5-10 years, (c) > 10-20 years, (d) > 20-30 years, (e) > 30 to 45 (f) > 45-60 years, (g) > 60 years. 15 males and 15 females were allocated for each age category. A spot urine sample was collected from all patients and was analyzed for urine osmolality and creatinine in batches of 50.

The influence of age, sex, body weight and height on the Osm/cr was analyzed using multiple linear regression and only the height showed significant correlation. [Osm/cr = 265.3 ± 0.9588 (height)] R square was 0.02 suggesting height may make 2 % influence on urine Osm/cr ratio.

In conclusion, urine Osm/cr ratio needs no correction for gender, age and body weight.