

# The accuracy of urine dipsticks as a screening test for proteinuria in hypertensive disorders of pregnancy.

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## **Abstract:**

**Background.** Proteinuria is used as a criterion in the classification system for hypertensive disorders of pregnancy including preeclampsia. The aim of the study was to evaluate the accuracy of dipstick urinalysis in a single voided urine sample and in an aliquot of a 24-hour urine collection in the assessment of proteinuria in hypertensive pregnant women, using the 24-hour urine protein excretion as the gold standard. **Methods.** One hundred ninety-eight women who presented with hypertension in pregnancy were recruited at the antenatal clinic at King Edward VIII Hospital in Durban, South Africa, a tertiary referral center. Exclusion criteria included women with eclampsia, urinary tract infection, and chronic renal disease. Routine dipstick urinalysis (Bayer) was performed by midwives for proteinuria, and a 24-hour urine specimen was collected for quantitative protein assessment. A laboratory technician performed urine dipstick test for protein on a mixed aliquot of the 24-hour urine specimen. This result, together with that of the screening dipstick urinalysis, was compared to the 24-hour urine protein excretion. **Results.** The results of the 198 patients were analyzed, of the total, 72 had preeclampsia. Using a value of  $\geq 0.3$  g protein excretion per 24 hours (1 + to 4 + on urine dipsticks) as positive, sensitivity, specificity, and predictive values for dipstick urinalysis were calculated. The positive predictive value for dipstick urinalysis ranged from 64.9% (single voided urine sample) to 94.2% (24-hour urine aliquot). The negative predictive value ranged from 75.2% (single voided urine sample) to 84.2% (24-hour urine aliquot). **Conclusion.** Dipstick urinalysis is not very accurate: therefore, all women presenting with hypertension during pregnancy should have a 24-hour urine protein measurement.