



Interesting FACT!

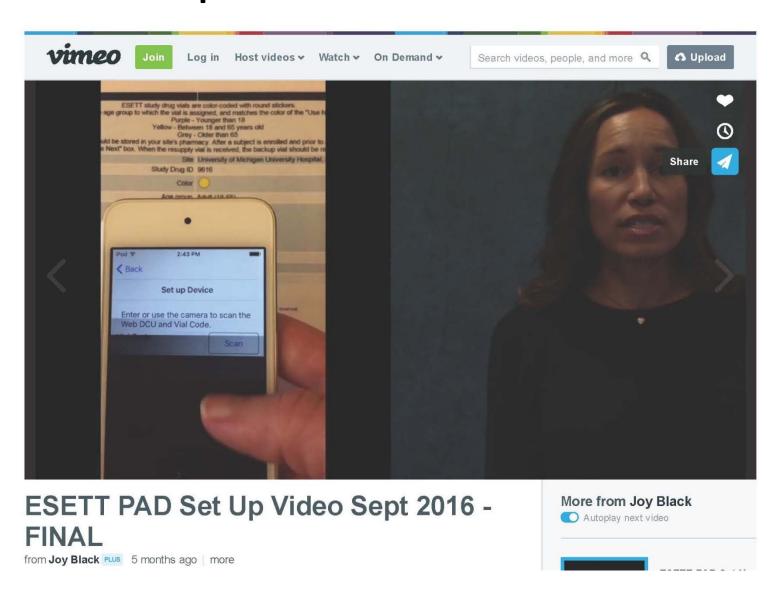


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PAD Setup



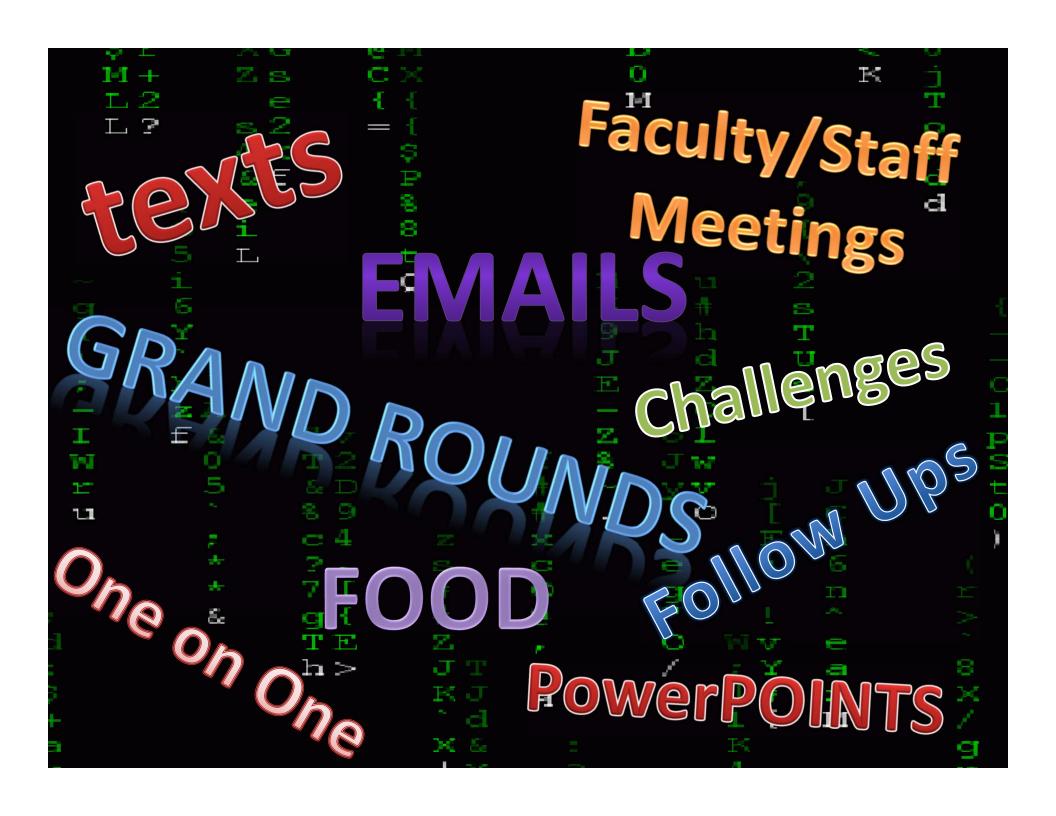
PAD Maintenance



Training











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Clinical Laboratory in Emergency Medicine

SUBSTITUTING WHOLE BLOOD FOR URINE IN A BEDSIDE PREGNANCY TEST

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☐ Abstract—Background: Point-of-care testing for rapid detection of pregnancy in women of reproductive age is common practice in the emergency department. Commercially available rapid human chorionic gonadotropin (hCG) immunoassays are validated for use with urine and serum, but not whole blood. Study Objectives: We assessed the validity of using whole blood to detect pregnancy using a point-of-care hCG assay by comparing it to a laboratory quantitative serum hCG assay as the criterion standard. Methods: A convenience sample of female patients of reproductive age (18-51 years) submitted 5 mL of whole blood, from which two drops were immediately applied to a point-of-care hCG kit, with results recorded at 10 min. The remainder of each whole blood specimen was sent to the hospital laboratory for the criterion-standard quantitative serum hCG assay. The criterion standard for a positive pregnancy test was defined as quantitative serum hCG ≥ 5 mIU/mL. Investigators performing the whole blood test and laboratory technicians performing the quantitative serum assay were blinded to one another's results. Results: There were 633 patients enrolled, with a mean age of 30 years (±7.7 years); 34% of the patients were pregnant. Overall, the whole blood pregnancy test was 95.8% sensitive (negative predictive value 97.9%), whereas the urine test was 95.3% sensitive (negative predictive value 97.6%); the specificity and positive predictive value of both tests was 100%. Conclusion: Using a standard point-of-care qualitative hCG

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immunoassay kit, whole blood may be used for rapid detection of pregnancy with similar, or greater, accuracy than urine. © 2012 Elsevier Inc.

☐ Keywords—whole blood; point-of-care test; pregnancy; emergency department; chorionic gonadotropin

INTRODUCTION

Point-of-care testing for rapid detection of pregnancy in women of reproductive age is common practice in the emergency department (ED). Studies have demonstrated that patient history does not reliably exclude the possibility of pregnancy in ED patients, and a large proportion of these patients may be exposed to potential teratogens during their ED visits (1,2). In one study, 33% of patients received a radiographic evaluation and 75% were prescribed a medication (2). Moreover, a rapidly obtained pregnancy test is required as the first step in the evaluation of a suspected potentially life-threatening ectopic pregnancy (3).

Commercially available rapid immunochemical assays detect human chorionic gonadotropin (hCG) concentrations ≥25 mlU/mL. To date, these assays have been validated only in urine and serum, but not in whole blood, and they typically yield results at approximately 3 min using urine and 5 min using serum (4–7). However, in

In-Service Materials



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