

## TITLE

STABILITY OF NOREPINEPHRINE IN DEXTROSE AND NORMAL SALINE SOLUTIONS.

## AUTHORS

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## INTRODUCTION

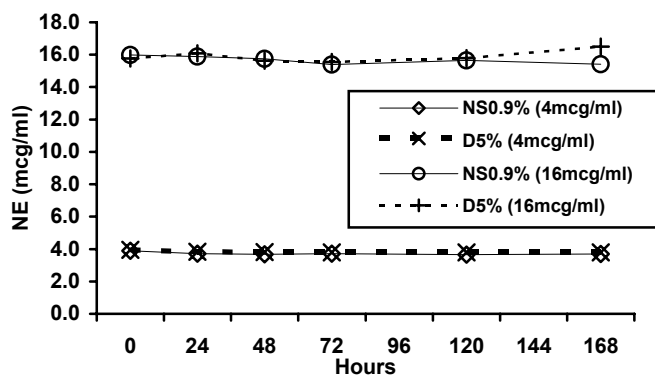
Norepinephrine (NE) infusions are commonly used in the ICU and the OR. Data on long term stability of NE solutions are lacking. Thus the NE monograph states that it must be prepared in a 5% dextrose solution and that maximal shelf time following dilution is 24 hr. This prospective study was designed to measure the long term (7 days) stability of NE solutions prepared in 5% dextrose (D5%) and in 0.9% normal saline (NS0.9%) solutions stored at room temperature under ambient light.

## METHODS

Solutions were prepared in triplicate by aseptically diluting 1 mg and 4 mg NE in 250 ml of D5% or NS0.9% (final concentrations 4 mcg/ml and 16 mcg/ml respectively) and stored at room temperature under ambient light. At time 0, 24h, 48h, 72h, 120h and 168h, all solutions were sampled in duplicate (1 ml) and immediately frozen and stored at -80°C for later assay. NE concentrations were measured by HPLC with electrochemical detection and use of internal standard (coefficient of variation 4.6%). Statistical analysis was done by ANOVA for repeated measures.

## RESULTS

Ratio of NE concentration at time 168 hr compared to baseline were 95.7% and 96.4% for NE 4 mcg/ml in D5% and NS0.9% solutions respectively and 104.5% and 96.4% for NE 16 mcg/ml in D5% and NS0.9% solutions respectively (Figure, P=NS).



## DISCUSSION

A drug is considered stable in a solution if its concentration at a given time is at least 90% of its baseline concentration.<sup>1</sup> Thus solutions of NE in concentrations commonly used in the clinical setting can be prepared either in D5% or NS0.9% and safely stored at room temperature and ambient light up to 7 days.

## REFERENCES

1. Am J Hosp Pharm 1983; 40: 1159-60.