

Bon Secours Richmond
Pharmacy & Therapeutics Committees
Sodium Nitroprusside plus Sodium Thiosulfate Admixture

Recommendations:

- Nitroprusside will only be mixed in Dextrose 5%. Stability is reduced in 0.9% NaCl.
- Nitroprusside / thiosulfate admixtures will be placed inside of a plastic light protective bag. This will ensure that the top of the admixture is protected from light.
- The top of the light protective bag will be taped to prevent light from entering from above through the hanger hole.
- The bottom of the light protective bag will either be cut off or rolled up to expose the port.
- Light protective covers will be use for IV infusion sets connected to the nitroprusside / thiosulfate admixture. It can take up to 2 hours for the fluid to travel through the IV tubing at low normal infusion rates.

Note: All information was sent to Lawrence A. Trissel, author of Handbook on Injectable Drugs, and American Society of Health System Pharmacists for their review and comment.

Experiment Methods:

- Four admixtures were prepared:
 - Two where light protective covering was used
 - Nitroprusside 100 mg in 250 ml of D5W
 - Nitroprusside 100 mg with 1 g sodium thiosulfate in 250 ml D5W
 - Two where no light protective covering was used
 - Nitroprusside 100 mg in 250 ml of D5W
 - Nitroprusside 100 mg with 1 g sodium thiosulfate in 250 ml D5W

Picture Key: N (100 mg nitroprusside), T (1 g sodium thiosulfate) all in Dextrose 250 ml

- The bags, covered and uncovered, were exposed to fluorescent lighting in the pharmacy, incandescent lighting at home (wooden table pictures). The bags were take home over night and brought them back to the pharmacy in the am.
- The bags of the left were uncovered through out the experiment. Those on the right were uncovered for the pictures and immediate recovered.
- Pictures were taken at hourly intervals starting at 10:45 am for images 1-9, 11 was taken the follow morning at 8 am, and hourly thereafter until image 14.

Findings:

- A color change was apparent after 2 hours in the unprotected admixtures which intensified as exposure continued. The intense blue color disappeared over the weekend while the uncovered bags were exposed to light.
- The covered bags never developed a color change.

DRUG NAME **NITROPRUSSIDE (NIPRIDE)**
 DRUG AMOUNT **100** MG
 DILUENT **250** ML
 FINAL CONCENTRATION 400 MCG/ML
 USUAL DOSE 0.5-3 MCG/KG/MIN, RARELY HIGHER THAN 4 MCG/KG/MIN
 TITRATE INCREASE BY 0.25-0.3 MCG/KG/MIN
 MAXIMUM DOSE 10 MCG/KG/MIN
 INSTRUCTIONS 1) FIND THE ROW FOR THE PATIENT'S WEIGHT IN KILOGRAMS
 2) FIND THE COLUMN FOR THE DESIRED DOSAGE IN MCG/KG/MIN
 3) LOCATE THE RATE IN ML/HR WHERE THE ROW AND COLUMN MEET

| WEIGHT (KG) | DOSE (MCG/KG/MIN) | | | | | | | | | | | | | | |
|----------------|-------------------|-----|-----|-----|-----|-----|----|-----|----|-----|----|-----|----|-----|-----|
| | 0.25 | 0.5 | 0.6 | 0.7 | 0.8 | 0.9 | 1 | 1.5 | 2 | 2.5 | 3 | 3.5 | 4 | 4.5 | 5 |
| 40 | 1.5 | 3 | 3.6 | 4.2 | 4.8 | 5 | 6 | 9 | 12 | 15 | 18 | 21 | 24 | 27 | 30 |
| 45 | 1.7 | 3.4 | 4.1 | 4.7 | 5 | 6 | 7 | 10 | 14 | 17 | 20 | 24 | 27 | 30 | 34 |
| 50 | 1.9 | 3.8 | 4.5 | 5 | 6 | 7 | 8 | 11 | 15 | 19 | 23 | 26 | 30 | 34 | 38 |
| 55 | 2.1 | 4.1 | 5 | 6 | 7 | 7 | 8 | 12 | 17 | 21 | 25 | 29 | 33 | 37 | 41 |
| 60 | 2.3 | 4.5 | 5 | 6 | 7 | 8 | 9 | 14 | 18 | 23 | 27 | 32 | 36 | 41 | 45 |
| 65 | 2.4 | 4.9 | 6 | 7 | 8 | 9 | 10 | 15 | 20 | 24 | 29 | 34 | 39 | 44 | 49 |
| 70 | 2.6 | 5 | 6 | 7 | 8 | 9 | 11 | 16 | 21 | 26 | 32 | 37 | 42 | 47 | 53 |
| 75 | 2.8 | 6 | 7 | 8 | 9 | 10 | 11 | 17 | 23 | 28 | 34 | 39 | 45 | 51 | 56 |
| 80 | 3 | 6 | 7 | 8 | 10 | 11 | 12 | 18 | 24 | 30 | 36 | 42 | 48 | 54 | 60 |
| 85 | 3.2 | 6 | 8 | 9 | 10 | 11 | 13 | 19 | 26 | 32 | 38 | 45 | 51 | 57 | 64 |
| 90 | 3.4 | 7 | 8 | 9 | 11 | 12 | 14 | 20 | 27 | 34 | 41 | 47 | 54 | 61 | 68 |
| 95 | 3.6 | 7 | 9 | 10 | 11 | 13 | 14 | 21 | 29 | 36 | 43 | 50 | 57 | 64 | 71 |
| 100 | 3.8 | 8 | 9 | 11 | 12 | 14 | 15 | 23 | 30 | 38 | 45 | 53 | 60 | 68 | 75 |
| 105 | 3.9 | 8 | 9 | 11 | 13 | 14 | 16 | 24 | 32 | 39 | 47 | 55 | 63 | 71 | 79 |
| 110 | 4.1 | 8 | 10 | 12 | 13 | 15 | 17 | 25 | 33 | 41 | 50 | 58 | 66 | 74 | 83 |
| 115 | 4.3 | 9 | 10 | 12 | 14 | 16 | 17 | 26 | 35 | 43 | 52 | 60 | 69 | 78 | 86 |
| 120 | 4.5 | 9 | 11 | 13 | 14 | 16 | 18 | 27 | 36 | 45 | 54 | 63 | 72 | 81 | 90 |
| 125 | 4.7 | 9 | 11 | 13 | 15 | 17 | 19 | 28 | 38 | 47 | 56 | 66 | 75 | 84 | 94 |
| 130 | 4.9 | 10 | 12 | 14 | 16 | 18 | 20 | 29 | 39 | 49 | 59 | 68 | 78 | 88 | 98 |
| 135 | 5 | 10 | 12 | 14 | 16 | 18 | 20 | 30 | 41 | 51 | 61 | 71 | 81 | 91 | 101 |

RATE (ML/HR)

Image 1



Image 2



Image 3

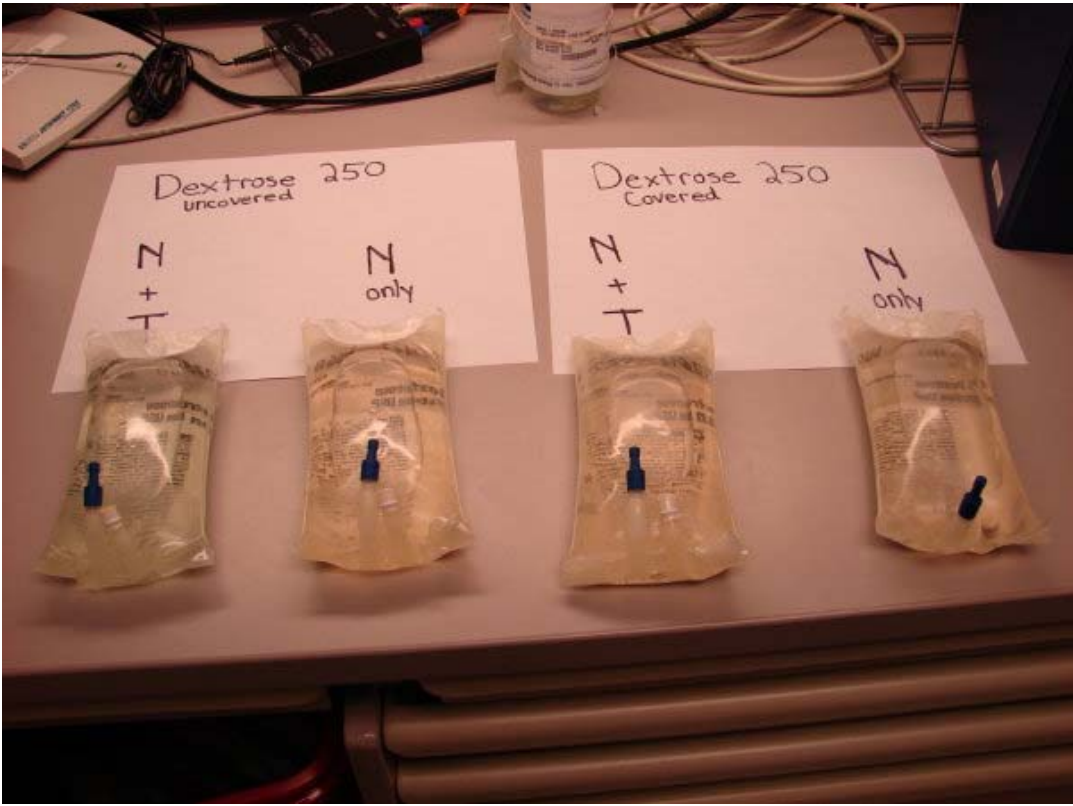


Image 4



Image 5



Image 6



Image 7



Image 8

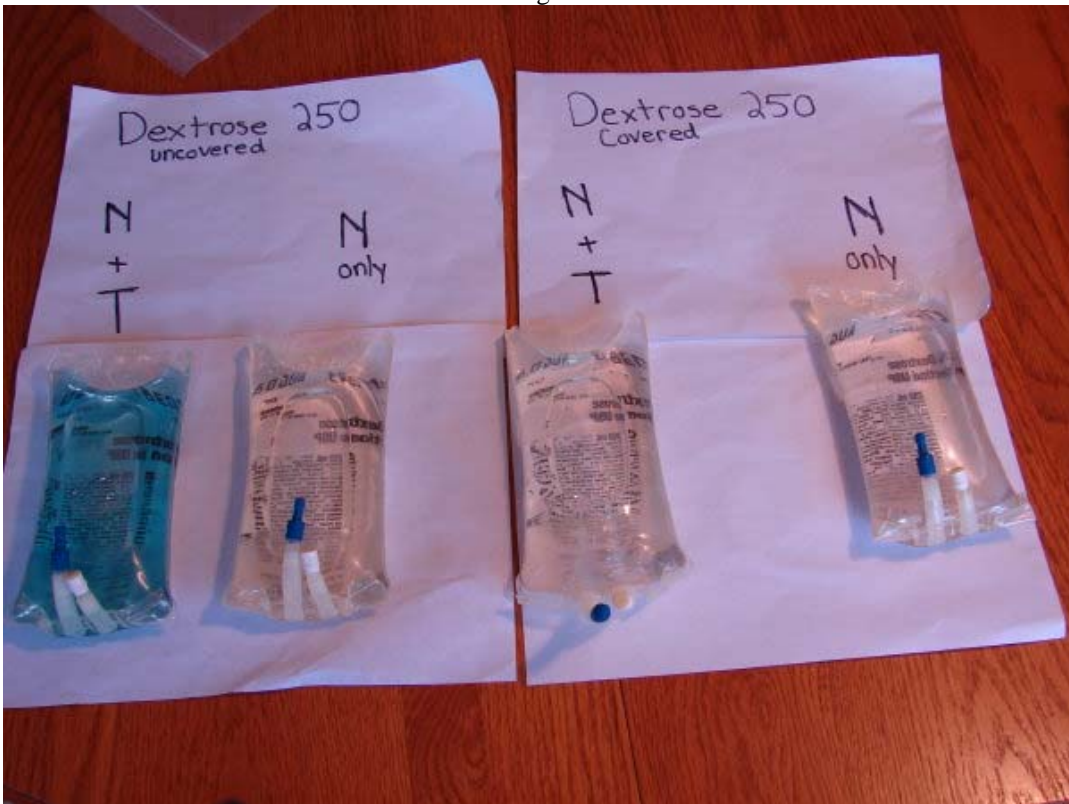


Image 9



Image 10



Image 11



Image 12



Image 13

