

3 Ds and some Bs

DNR (POLST) form
D10 for hypoglycemia
Dopamine documentation

B Be safe
Be smart
Be current

EMS CE May, 2013



EMERGENCY MEDICAL SERVICES

INTRO TO ILLINOIS' **NEW** IDPH UNIFORM DNR ADVANCE DIRECTIVE FORM


Modified for the NWC EMSS 5/13



Objectives

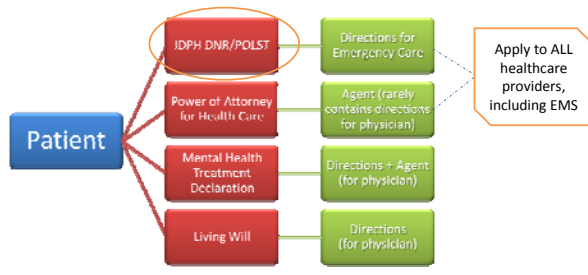
Upon completion, participants will

- explain the POLST Paradigm and how patient wishes are determined and documented on a standard form.
- determine how POLST documentation builds upon and improves existing advance directives.
- recognize the importance of EMS personnel being properly educated regarding interpreting POLST forms during emergencies and other relevant circumstances.




Turn to Advance Directives **only** if the patient **cannot** make medical decisions:

Current Advance Directives in Illinois:



IDPH DNR Advance Directive is now POLST compliant



On 3-15-13, IDPH introduced the new Uniform DNR Advanced Directive Form to meet the national POLST standards used in other states

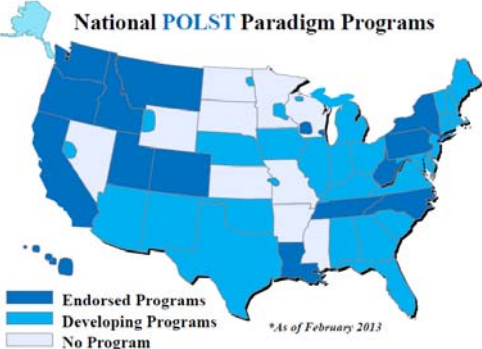
POLST stands for “Physician **O**rders for **L**ife-**S**ustaining **T**reatment”

POLST reduces medical errors by improving guidance during **life-threatening emergencies**

POLST use in the United States

The POLST Paradigm is now in the majority of states

National POLST Paradigm Programs




Concerns about other non-POLST Advance Directives

← Problems

Solutions →

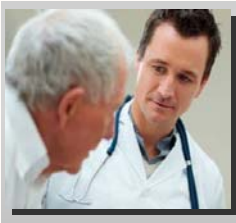
- The old DNR form was not specific enough to guide EMS action in all situations
- Other Advance Directives are not medical orders completed by a physician that EMS personnel are legally allowed to follow

The new DNR (POLST) form addresses all of these concerns



Benefits of new DNR (POLST) form

Promoting Patient-Centered Care



Provides concrete **Medical Orders** that **must** be followed by all healthcare providers

Easily recognized **standardized** form for entire state

A single form goes with patient from **care setting** to **care setting**


4th version of IDPH DNR form

2000: 1st state EMS DNR “**Orange form**”. Only for EMS; order had to be rewritten at each new facility.


2005: IDPH Uniform **DNR Order form** applied to all facilities and patient only needed one form.

2006: Some facilities confused if form had to be used for every in-hospital DNR order (it did not), so was renamed IDPH Uniform **DNR Advance Directive**.

2013: Still called IDPH Uniform DNR Advance Directive, but some may also call it the **POLST form (shorthand)**, since it uses that way of talking to patients and documenting their wishes (POLST “paradigm”) for care during life-threatening emergencies.



ALL previous versions of the form are still VALID!!




Some may still have older versions of the form

A valid, completed form does not expire


The person does NOT need the original form – all copies of a valid form are also valid

Form should travel with patient at all times

10





What if there are 2 or more different forms?



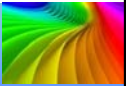
When a new form is created, it voids past forms

Follow instruction on the form with the **most recent date**






Does the color of the form matter?




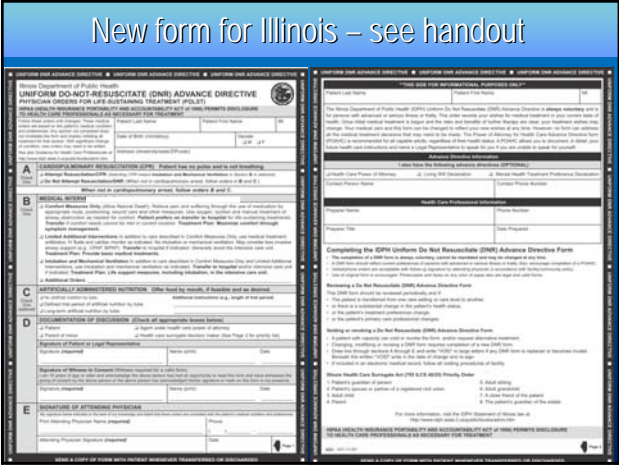
NO.

It is recommended that the form be printed on **pink** paper – only to make it easier to see or find

All copies of the form are valid, regardless of color







The new Uniform DNR Advance Directive (POLST) form

3 Primary Medical Order Sections

- **CPR for Full Arrest**
 - Yes, Attempt CPR
 - No, Do Not Attempt CPR (DNR)
- **Orders for Pre-Arrest Emergency**
 - Full Treatment
 - Limited Treatment
 - Comfort Only
- **Artificial Nutrition and Hydration**
 - None
 - Trial period
 - Acceptable

NEW

NEW

Section “A”: Cardio-Pulmonary Resuscitation
Code Status – Applies when pulse AND breathing are absent

The image shows the Section A: Cardio-Pulmonary Resuscitation form. It includes a header with the title and purpose, followed by a section for patient information and a section for medical orders. The form is designed to be filled out by a healthcare provider and a patient or their representative.

Multiple kinds of emergencies. This section only addresses a **full cardiac arrest** (no breathing or pulse)
Answers, “Do we do CPR or not?”
NEW! Patients can use this form to say YES to CPR as well as to refuse CPR

Section A
CPR: Yes or No

YES **NO**

Different from past forms which were only DNR for full arrest
Pts now have more ways to tailor form to their wishes

- Persons with advanced age/disabilities may be concerned they will not receive same emergency services as younger/non-disabled persons, despite having a good quality of life
- Some persons may have created a DNR form during a period of serious illness, but once they recovered, they may want a new form requesting CPR that would void the past form

POLST
ILLINOIS

Section “A”: Cardio-Pulmonary Resuscitation
Code Status – Applies when breathing AND pulse are absent

A **CARDIOPULMONARY RESUSCITATION (CPR)** Patient has no pulse and is not breathing.

☐ Attempt Resuscitation/CPR (Selecting CPR means Intubation and Mechanical Ventilation in Section B is selected)

☒ Do Not Attempt Resuscitation/DNR (When not in cardiopulmonary arrest, follow orders in B and C.)

If “Attempt Resuscitation” box is checked, you do **NOT** need to look at any other parts of the form. Initiate full Resuscitation/CPR per SOP.

If “DNR” box is checked and pt in full cardiac arrest, **“Stop”** and do not begin CPR

Section “B”: Medical Interventions
DNR for cardiac arrest does NOT mean Do Nothing if patient has a pulse and/or is breathing

B **MEDICAL INTERVENTIONS** Patient has pulse and/or is breathing.

☒ Comfort Measures Only (Allow Natural Death). Relieve pain and suffering through the use of medication by appropriate route, positioning, wound care and other measures. Use oxygen, suction and manual treatment of airway obstruction as needed for comfort. Patient prefers no transfer to hospital for life-sustaining treatments. Transfer if comfort needs cannot be met in current location. Treatment Plan: Maximize comfort through symptom management.

☐ Limited Additional Interventions In addition to care described in Comfort Measures Only, use medical treatment, antibiotics, IV fluids and cardiac monitor as indicated. No intubation or mechanical ventilation. May consider less invasive airway support (e.g., CPAP, BiPAP). Transfer to hospital if indicated. Generally avoid the intensive care unit. Treatment Plan: Provide basic medical treatments.

☐ Intubation and Mechanical Ventilation In addition to care described in Comfort Measures Only and Limited Additional Interventions, use intubation and mechanical ventilation as indicated. Transfer to hospital and/or intensive care unit if indicated. Treatment Plan: Life support measures, including intubation, in the intensive care unit.

☐ Additional Orders

The three categories in Section B explain the intensity of emergency treatment for patients who are still breathing or have a pulse

Section "B": Medical Interventions

Check One

Comfort Measures Only (Allow Natural Death): Relieve pain and suffering through the use of any medication by any route, positioning, wound care and other measures. Use oxygen, suction and manual treatment of airway obstruction as needed for comfort. Patient prefers no transfer to hospital for life-sustaining treatments. Transfer if comfort needs cannot be met in current location. Treatment Plan: Maximize comfort through symptom management.

Limited Additional Interventions: In addition to care described in Comfort Measures Only, use medical treatment, antibiotics, IV fluids and cardiac monitor as indicated. No intubation or mechanical ventilation. May consider less invasive airway support (e.g., CPAP, BiPAP). Transfer to hospital if indicated. Generally avoid the intensive care unit. Treatment Plan: Provide basic medical treatments.

Intubation and Mechanical Ventilation: In addition to care described in Comfort Measures Only and Limited Additional Interventions, use intubation and mechanical ventilation as indicated. Transfer to hospital and/or intensive care unit if indicated. Treatment Plan: Intubation including life support measures in the intensive care unit.

Additional Orders:

✓ "Comfort Measures Only": maximize comfort; Rx pain/distress per form options

Pt prefers not to be transported, but once EMS is called, they may need to be transported anyway

Consult w/ OLMC to determine appropriate actions. Maximize comfort in existing location and transport only if comfort needs cannot be met where found.

Section "B": Medical Interventions

Check One

Comfort Measures Only (Allow Natural Death): Relieve pain and suffering through the use of any medication by any route, positioning, wound care and other measures. Use oxygen, suction and manual treatment of airway obstruction as needed for comfort. Patient prefers no transfer to hospital for life-sustaining treatments. Transfer if comfort needs cannot be met in current location. Treatment Plan: Maximize comfort through symptom management.

Limited Additional Interventions: In addition to care described in Comfort Measures Only, use medical treatment, antibiotics, IV fluids and cardiac monitor as indicated. No intubation or mechanical ventilation. May consider less invasive airway support (e.g., CPAP, BiPAP). Transfer to hospital if indicated. Generally avoid the intensive care unit. Treatment Plan: Provide basic medical treatments.

Intubation and Mechanical Ventilation: In addition to care described in Comfort Measures Only and Limited Additional Interventions, use intubation and mechanical ventilation as indicated. Transfer to hospital and/or intensive care unit if indicated. Treatment Plan: Intubation including life support measures in the intensive care unit.

Additional Orders:

✓ Limited Additional Interventions: Comfort measures plus:

• CPAP, IVF, ECG monitor OK

• Transport to hospital if indicated

• No intubation (King LT) or mechanical ventilation

Section "B": Medical Interventions

Check One

Comfort Measures Only (Allow Natural Death): Relieve pain and suffering through the use of medication by appropriate route, positioning, wound care and other measures. Use oxygen, suction and manual treatment of airway obstruction as needed for comfort. Patient prefers no transfer to hospital for life-sustaining treatments. Transfer if comfort needs cannot be met in current location. Treatment Plan: Maximize comfort through symptom management.

Limited Additional Interventions: In addition to care described in Comfort Measures Only, use medical treatment, antibiotics, IV fluids and cardiac monitor as indicated. No intubation or mechanical ventilation. May consider less invasive airway support (e.g., CPAP, BiPAP). Transfer to hospital if indicated. Generally avoid the intensive care unit. Treatment Plan: Provide basic medical treatments.

Intubation and Mechanical Ventilation: In addition to care described in Comfort Measures Only and Limited Additional Interventions, use intubation and mechanical ventilation as indicated. Transfer to hospital and/or intensive care unit if indicated. Treatment Plan: Intubation including life support measures in the intensive care unit.

Additional Orders:

✓ Intubation and Mechanical Ventilation: provide full treatment

• If "Attempt CPR" ✓ in Section A, Rx per SOP and ignore Section B (if something else marked here it's a mistake!)

• Pt may want DNR for full arrest but still want everything done if they are breathing or have a pulse

• Transport patient to hospital if indicated

Section "B": Medical Interventions

Check One

Comfort Measures Only (Allow Natural Death): Relieve pain and suffering through the use of medication by appropriate route, positioning, wound care and other measures. Use oxygen, suction and manual treatment of airway obstruction as needed for comfort. Patient prefers no transfer to hospital for life-sustaining treatments. Transfer if comfort needs cannot be met in current location. Treatment Plan: Maximize comfort through symptom management.

Limited Additional Interventions: In addition to care described in Comfort Measures Only, use medical treatment, antibiotics, IV fluids and cardiac monitor as indicated. No intubation or mechanical ventilation. May consider less invasive airway support (e.g., CPAP, BiPAP). Transfer to hospital if indicated. Generally avoid the intensive care unit. Treatment Plan: Provide basic medical treatments.

Intubation and Mechanical Ventilation: In addition to care described in Comfort Measures Only and Limited Additional Interventions, use intubation and mechanical ventilation as indicated. Transfer to hospital and/or intensive care unit if indicated. Treatment Plan: Intubation including life support measures in the intensive care unit.

Additional Orders:

"Additional Orders" is used to customize the form for individual medical conditions when necessary

Follow instructions listed here

Section "C": Artificially Administered Nutrition

Check One (optional)

No artificial nutrition by tube.

Defined trial period of artificial nutrition by tube.

Long-term artificial nutrition by tube.

Additional Instructions (e.g., length of trial period)

EMS personnel can ignore this section

Section "D": Documentation of Discussion

Check One

Signature of Patient or Legal Representative

Signature of Witness to Consent (Witness required for a valid form)

Signature (required)

Signature (required)

Name (print)

Name (print)

Date

Date

Need 2 signatures in section D

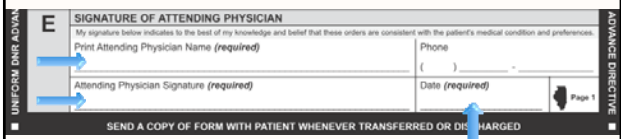
• Patient or legal representative

• Witness

If signed by patient's legal representative, supporting documentation that identifies the legal representative does NOT need to be attached or verified

4


Section "E": Signature of Attending Physician



The form must have a physician's name and signature and effective date to be valid


The physician's signature may be written by a nurse who also uses her/his own initials. This is OK and does not affect the form's validity.

Requirements to make the form Valid




- Patient name
- Resuscitation orders (Section "A")
- 3 Signatures
 - Patient or legal representative
 - Witness
 - Attending physician
- Date

All other information is optional



Who can revoke these orders?




The **patient** at any time

For all other situations, it is a complicated process that will take time you may not have to figure out

If you have time, consult with OLMC

A PoA or Surrogate should not be allowed to overturn decisions made, documented, and signed by the pt.

You are **legally protected** if you follow the orders on a valid form in good faith



What action is indicated if a family member disputes a valid DNR?

Determine if they have durable power of attorney for healthcare and if they had provided consent to the DNR order as the designated surrogate...

If yes, the POA may withdraw consent and resuscitation should occur.

If no, follow patient's wishes on the DNR form. Contact OLMC for orders.

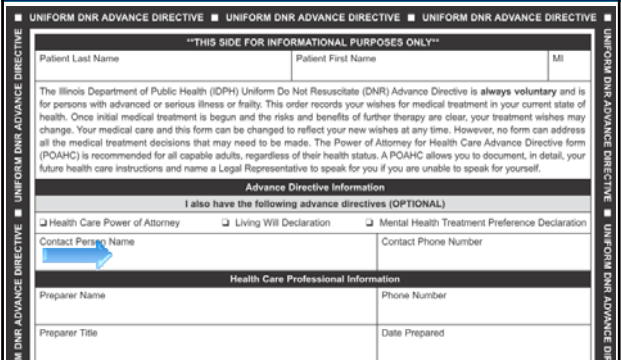
Is EMS at risk for following a DNR order?

"A health care professional who in good faith complies with a do-not-resuscitate order made in accordance with this Act is not, as a result of that compliance, subject to any criminal or civil liability, except for willful and wanton misconduct, and may not be found to have committed an act of unprofessional conduct"

- Health Care Surrogate Act

Reverse Side: General Information

May provide useful contact phone numbers.



What action is needed if EMS is presented with a DNR (POLST) form that contains the patient's name and signature, date of implementation, physician's signature, and DNR box checked in Section A?

- A. Accept valid order and withhold CPR
- B. Disregard invalid DNR; ask family their wishes
- C. Call physician who signed DNR to verify validity
- D. Seek OLMC physician OK to accept incomplete order

Bottom line

A valid DNR order should be honored unless compelling circumstances arise and an OLMC physician directs EMS to resuscitate

This presentation for the POLST Illinois Taskforce has been made possible by in-kind and other resources provided by:



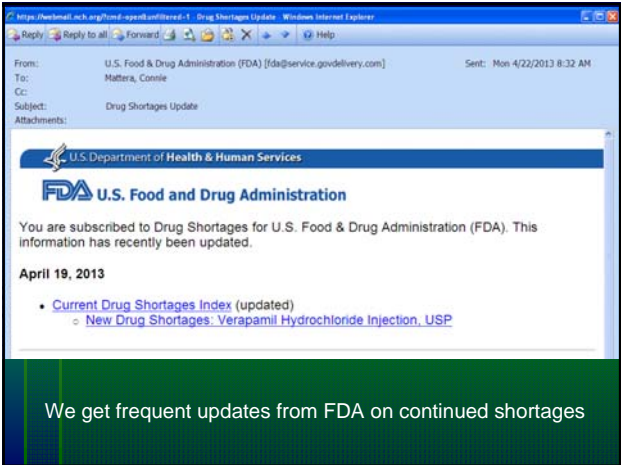
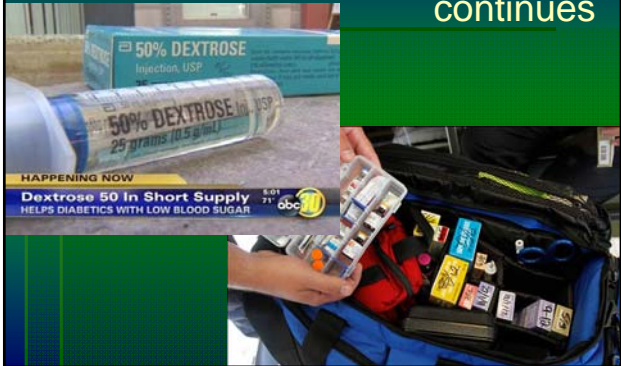
Check for understanding

See Post-training survey instrument in class handout

Original presentation developed by Kelly Armstrong, PhD for the Illinois POLST Taskforce. Contact: karmstrong@sumed.edu

Modified for the NWC EMSS by Connie J. Mattera, MS, RN, EMT-P EMS Administrative Director Contact: cmattera@nchw.org

Moving on...the drug shortage continues



Northwest Community EMS CE:
3 Ds and some Bs May 2013
Connie J. Mattera MS, RN, EMT-P



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Current Drug Shortages A - D

Drug Safety and Availability

Drug Shortages

Current Drug Shortages Index

[Current Drug Shortages A - D](#)

Current Drug Shortages E - K

Current Drug Shortages L - N

Current Drug Shortages O - R

Current Drug Shortages A - D

The majority of information in this section is provided to FDA by manufacturers. Communication between FDA and the public is an essential component of preventing and mitigating drug shortages. To ensure that the information in this section is current, FDA appreciates all information and updates about shortages provided by manufacturers. Visit our information about shortages as soon as we receive it from the manufacturers. To report information about shortages or supply issues, manufacturers can send updates to drugshortages@fda.hhs.gov. Healthcare professionals and patients are also encouraged to notify us of shortages at drugshortages@fda.hhs.gov.

“Food and Drug Administration Safety and Innovation Act (FDASIA) of 2012

“Listed by Generic name or Active Ingredient”

D

Daunorubicin Hydrochloride Solution for Injection

Danileukin alfa (Daktacip) Injection (initial posting 9/22/2012)

Dexamprosin Injection (DAVP)

Dexamethasone Sodium Phosphate Injection (initial posting 1/15/2013) **UPDATED** 4/17/2013

Dexrazoxane (Zinecard) Injection

Dextrose Injection (initial posting 5/23/2012)

Diazepam Injection

Dipyridamol Injection (initial posting 7/24/2012)

Doxorubicin (adriamycin) lipoylized powder (initial posting 12/2/2011)

Doxorubicin Liposomal Injection

Doxycycline Hydrate (initial posting 1/18/2013)

back to top

Company	Product	Availability and Estimated Shortage Duration	Related Information	Shortage Reason (per New Legislation- FDASIA)*	Date Updated
Amphastar Pharmaceuticals, Inc. Customer Service: 1-800-423-4136	50%, 50mL Luer-Jet Prefilled Syringe NDC 76329-3301-1 (old NDC 0548-3301-00)	Amphastar will regularly release products	Amphastar is experiencing a product shortage due to an increase in product demand caused by market supply issues. Shortage per Manufacturer: Increased Demand	Demand increase for the drug.	Reverified 4/8/2013
Hospira, Inc. Customer Service 1-877-948-7747	50%; 50mL vial (NDC 00409-6648-02) 50%; 50mL Abboject Syringe (NDC 00409-4902-34)	Next delivery early May. Estimated recovery 3Q 2013 Next delivery April Estimated recovery 3Q 2013	Shortage per Manufacturer: Manufacturing delay	Other: Demand increase for the drug	Revised 4/5/2013

[illegible]

A30	Revised 4/12/13dw						
A	B	C	D	E	F	G	H
1 Red indicates changes since last email							
3 Medication	Status						
5 Acetylcysteine 20%							
6 Adenosine (Adenoscan) injection							
7 Amnophylline 50mg injection							no ETA
7 Amoxicapric acid 30ml injection							
8 Acyclovir 125mg/125ml bottles							
9 Calcium Sodium Borate inj							
10 Dextrose 25% pediatric syringes	None in Pharmacy, ped code carts being stocked with 50% Rec'd small supply of Hospira product, saving for MICU and code trays; Continue to receive outsourced supply. Pysis partially stocked						
11 Dextrose 50% syringes							
12							
13 Dobutamine injection and premix IV							
14							
15 Furosemide 20mg injection							
16 Isoniazide injection							
17 Lidocaine injection							
18 Maalox							
19 Magnesium Sulf premix IVPB							
20 Magendine PCA							
21 Morphine prepackets free							
22 Naluphine 1mg injt							
23 Neonatal Trace Elements injt							
24 Pancuronium injection							
25 Papaverine injection							
26 Propofol injection							
27 IPA (CathFlo) 2mg							
28 Versipril 2.5mg injt							
29							
30 Revised 4/12/13dw							

One hospital's
watch list – others
totally out of D50

There is a downside to D50...

Very hypertonic; causes extensive damage if IV infiltrates and solution is absorbed into tissues (extravasation)

Significant hyperglycemia and possible hyperosmolar syndrome may result from too rapid administration



Annals of Emergency Medicine of 50% Dextrose extravasation

Failure to diagnose an extravasation injury from D50 may lead to:

- loss of limb;
- need for amputation;
- disability; and/or
- disfigurement.





LEVEL 1 ADVISORY

Who's Blocking the Re-Stocking? Dealing with Medication Shortages

James Augustine, MD

Gathering of Eagles
Feb. 25, 2013

LEVEL 2 MODERATE SHORTAGES

Medication shortages affect availability and patient care in emergency operations, with Life-Threatening Risk

Trigger: When multiple therapeutic substitutions are being used, and multiple medicines are in shortage status at hospital and EMS sources

Hospitals approve agreements for sharing meds with each other and EMS

County EMS and Fire Agencies

Implement protocol changes to allow substitutions

Using paramedic input design initiative

Packaging solutions for safety

Safety program

Just in time educational programs

First stage of "Medication Command" utilization

LEVEL 3 SEVERE SHORTAGES

Many medication shortages affect patient care, with Life-Threatening Risk

Trigger: When many medicines are in therapeutic substitutions at hospital and EMS

Hospitals actively sharing meds with each other and EMS

County EMS and Fire Agencies

Implement protocol changes to allow substitutions

Full complement of packaging solutions for safety

Safety program

Just in time educational programs

Uniform use of "Medication Command" programs, with core group of designated personnel and distribution program

AF termath

Active medicine inventory management with overall less budget impact

Saf er medicine packaging and "No Risk" rpt

Expanded protocols and JIT education progr

So, what's our plan?

Go with Dr. Augustine's recommendations...

Cost

Effort

Risk

Need a drug that:

- ✓ Costs the same or less
- ✓ Is safe & minimizes risk
- ✓ Is easy to administer
- ✓ Is available!

this all seems a tad familiar

Introducing D10% / W

NEW

Effective after CE, PMs/PHRNs are authorized to give D10% for hypoglycemia

Go live 6 -1-13

Where current SOPs call for Dextrose 50% (25g / 50mL), EMS will instead give Dextrose 10% (25 g / 250 mL)

512 Downloaded from emj.bmj.com on April 21, 2013 - Published by group.bmj.com

PREHOSPITAL CARE

Evolving alternative for 8 years

Dextrose 10% or 50% in the treatment of hypoglycaemia out of hospital? A randomised controlled trial

C Moore, M Woollard

Emergency Med / 2005;22:512-515. doi: 10.1136/emj.2004.020693

Objective: To investigate whether 10% dextrose given in 5 g (50 mL) aliquots is more effective than 50% dextrose given in 5 g (10 mL) aliquots in the treatment of out of hospital hypoglycaemia.

Design: Randomised controlled trial.

Setting: Out of hospital patients attended by paramedics from a large UK ambulance service.

Participants: 51 unresponsive adult patients with blood glucose levels < 4 mmol/L.

Intervention: 5 g (50 mL) intravenous aliquots of 10% dextrose or 5 g (10 mL) intravenous aliquots of 50% dextrose to a maximum dose of 25 g.

Main outcome measures: To compare for each dextrose concentration the time to achieve a Glasgow Coma Scale (GCS) score of 15, and the dose required to obtain a blood glucose level of > 4.5 mmol/L.

Participants: 51 unresponsive adult patients with blood glucose levels < 4 mmol/L.

Intervention: 5 g (50 mL) intravenous aliquots of 10% dextrose or 5 g (10 mL) intravenous aliquots of 50% dextrose to a maximum dose of 25 g.

Main outcome measures: To compare for each dextrose concentration the time to achieve a Glasgow Coma Scale (GCS) score of 15, and the dose required to obtain a blood glucose level of > 4.5 mmol/L.

Results: There were no statistically significant differences between the groups with regard to age or sex, median pretreatment GCS, pretreatment blood glucose level, or proportion of patients with insulin dependent diabetes. Following treatment, there were no statistically significant differences in median time to recovery (10 minutes), median post-treatment GCS, or number of subjects experiencing a further hypoglycaemic episode within 24 hours (four per group). The median total dose of dextrose administered was significantly less with the 10% concentration (10% = 10 g, 50% = 25 g, p < 0.001) and median post-treatment blood sugar levels were also significantly lower (10% = 6.2 mmol/L and 50% = 9.4 mmol/L, p < 0.003). There were no reports of extrapyramidal injuries in either group.

Conclusion: Dextrose 10% delivered in 5 g (50 mL) aliquots is administered in smaller doses than dextrose 50% delivered in 5 g (10 mL) aliquots, resulting in lower post-treatment blood glucose levels. We therefore recommend it as the intravenous treatment of choice for adult hypoglycaemia.

Side by side comparison D50 vs. D10 / 250 mL

Both contain 25 g dextrose

0.1 g/mL


50 mL

250 mL

How many calories is that?


D10%W has 10 g dextrose per 100 mL
250 mL has 25 g of dextrose
Each 1 gram of dextrose = ~ 3.4 calories
Entire IV bag contains 85 calories

www.livestrong.com/article/337613-dextrose-and-calorie-calculations/#ixzz2Q0tRx2Oej



Procedure

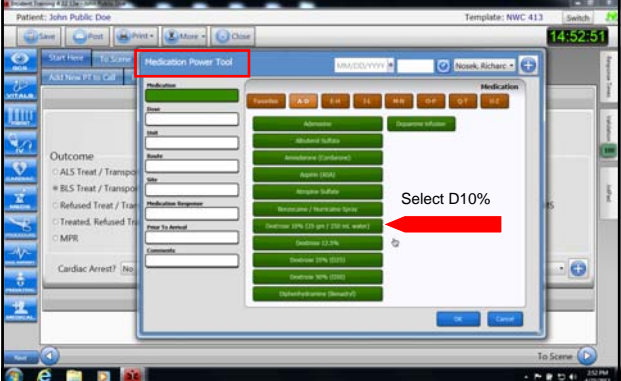
Review skill sheet in detail
See dosing
Set up the IVPB




Precautions for D10

If pt has HF or a history of HF and lungs are clear: standard dose, but slow infusion rate to 50 mL increments followed by reassessment
If pt has HF and lungs have crackles or wheezes: Call OLMC for orders


How should EMS document D10%?

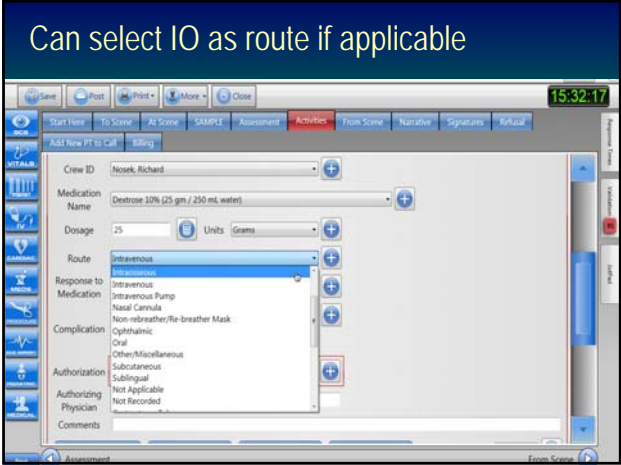
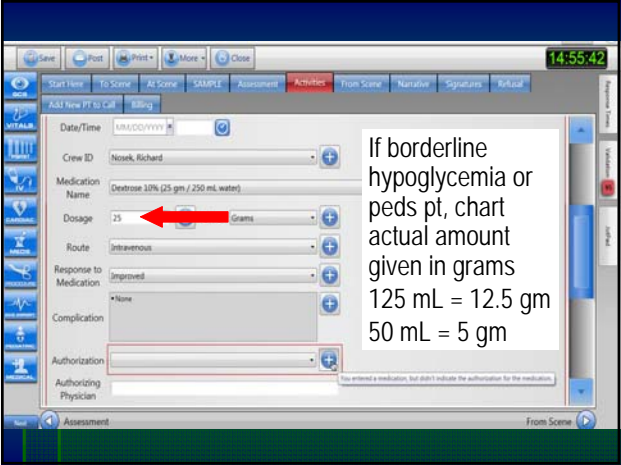


Document dose in grams given (default 25 grams – whole 250 mL IV bag)



You'll be asked to validate that dose





A 6 y/o with type 1 diabetes presents unconscious with a bG of 30. The mother states that the child weighs 53 lbs (24 kg). How much D10% should be given?

Then there's dopamine...

Need accurate dosing for desired effect:

Beta dose: start at 5 mcg/kg/min

Alpha effects: start at 10 mcg/kg/min

We use math shorthand to get accurate mcgts/min to deliver desired dose



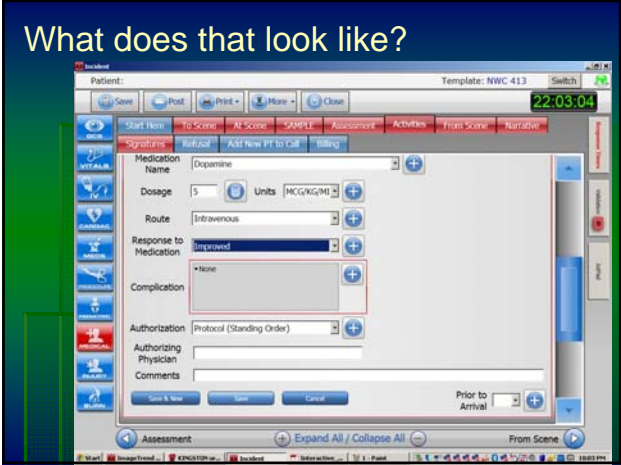

How *should* dopamine be documented?

- A. Microdrips per minute (mcgts/min)
- B. Milliliters per hour (mL/hr)
- C. Micrograms/kg/min (mcg/kg/min)

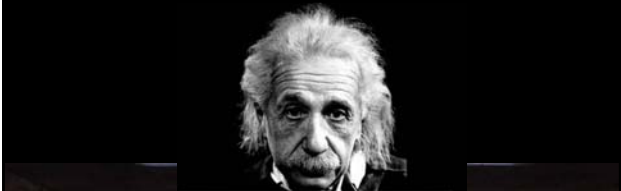

Northwest Community EMS System

Note: For documenting IV/IO Dopamine administration, please use the dosage noted in the SOP's and unit of measurement as mcg/kg/min. Ex: 5.0 mcg/kg/min OR 10.0 mcg/kg/min OR 20.0 mcg/kg/min.


Hospital personnel prefer to see the "actual dosage" as opposed to our "in field drip rates".




To kill staph, strep, and other virus and bacteria strains, repeat as above, wait 10 minutes, and wipe dry
Blood and other body fluids must be thoroughly cleaned from surfaces and objects before applying disinfectant
Use Standard Precautions for handling soiled pt-service items or linens, including appropriate use of PPE




Be SMART = understand what is happening across the space-time continuum



Make System error resistant
Practice 6 Rs of drug administration
Carefully inspect all packaging for correct drug, concentration, expiration date, etc.
Cross check all meds with another PM before giving
If error is made inform OLMC and call Dr. O



Where do these myths come from?
Does the BVM need to be disconnected from the airway prior to defib, to prevent a fire hazard?



Robertshaw H, McAnulty G. (1998). Ambient oxygen concentrations during simulated cardiopulmonary resuscitation. *Anaesthesia*, 53(7):634-7.
O2 concentrations were measured at 12 points around a CPR mannequin following simulated ventilation w/ self-inflating bag, and ventilator to determine whether increased O2 concentrations may contribute to the risk of combustion from arcing defib paddles.
Ventilation was simulated using either a mask or tracheal tube.
Gas sampling took place after 5 min of ventilation with: (1) removal of ventilatory device and placement on a pillow to left of mouth, (2) the tubing of device removed to a point 1 m behind the mouth and (3) the device left connected to the tracheal tube.
Concentrations of >30% were measured in left axilla after placement of devices on the pillow. No increase in O2 concentration was seen when the devices were either left connected to the ETT or removed to a distance of 1 m. (1m = 39 in)
Leaving a pt connected to a ventilator poses no increase in risk of fire from ignition of combustible material in an oxygen-enriched atmosphere during defibrillation.
Disconnecting any device which continues to discharge oxygen and leaving it on the pillow before defibrillation is dangerous.

If an IV pressure infuser is unavailable, can a BP cuff be used instead?



White SJ, Hamilton WA, Veronesi JF. (1991)
Prehosp Disaster Med. Oct- Dec; 6(4):429-34

A comparison of field techniques used to pressure-infuse intravenous fluids

Abstract: Application of pressure infusion bags may increase IV flow rates three-fold. Commercially available pressure infusers, manual squeezing of the IV fluid bag, inflating a BP cuff around the bag, and kneeling on the bag have been used by prehospital personnel attempting to augment fluid infusion rates. To test the efficacy of each these methods, seven experienced paramedics were asked to employ each method in two trials using a 1-liter bag of saline through a 14-gauge, 5.7cm catheter and a standard administration set. Gravity flow from 80 cm served as the control.

Cont.

Pressure infusers generated flow rates of 257+/-54 ml/min and 296+/-53 ml/min when inflated to 300 mmHg and maximum pressure respectively. This rate was 2-2.5 times that of gravity flow (123+/-2 ml/min) and significantly greater than those rates obtained by any other method (p less than .0005).

Manually squeezing the bag also was significantly better than gravity flow with flow rates of 184+/-46 ml/min and 173+/-40 ml/min achieved by each of two different squeezing methods (p < 0.01).

Neither BP cuff application and inflation (135+/-28 ml/min) nor kneeling on the bag (125+/-36 ml/min) was better than gravity alone. These results indicate that pressure infusers should be used to the exclusion of other field methods of supplying infusion pressure.

If pressure infusers are not available, manually squeezing the bag is the only alternative acceptable in the field.

Source: University of Rochester Medical Center, N.Y.



Quote from EZ-IO procedure

Attach pressure infuser device to IVF bag, and prime IV tubing

Inflate pressure infuser bag to 300 mm Hg

Freq reassess pressure (300 mmHg) w/in infuser device

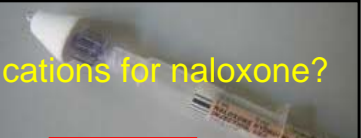
Re-inflate as IVF is administered



Be


CURRENT

What's the indications for naloxone?



NALOXONE (Narcan) EMT-B may give IN	Class: Narcotic antagonist - Reverses effects of opiate drugs, narcotics/synthetic narcotics: morphine, Dilaudid, Fentanyl, Demerol, Percodan, Methadone, Heroin, Percodan, Tylox, Nubain, Stadol, Talwin, Darvon Onset IV/IN: 1-2 min Onset IM: 2-10 min Half life: 30-81 min	- Narcotic/synthetic narcotic OD w/ AMS & respiratory depression - Coma of unknown etiology with respiratory depression (may or may not have constricted pupils)	- Allergy Precautions: - Titrate slowly; rapid reversal may result in opiate withdrawal syndrome - agitated, combative, uncooperative pt w/ rapid HR. Give O2 while prepping med to prevent reversal tachycardia. Use with caution in infants of addicted moms or pts dependent on opiates w/ CV disease (contact OLMC)
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Do we walk the talk?



PBPI results - Dec. 2012

N: 181 patients

Naloxone given to the following:

- 86/181 (48%): Initial RR WNL (12-20/min) ☺
- 77/181 (43%): RR slow (17 with apnea) ☺
- 17/181 (9%): RR fast (tachypnea) ☹
- 1 had no respirations documented ☹

Action needed: Re-education re indications for naloxone. Pts w/ an opiate OD are expected to have bradypnea.

What's the current dose?

DRUG OVERDOSE / POISONING

4. If AMS + RR < 12 and substance unknown (pupils may be small): **NALOXONE** 0.4 mg w/ repeat dosing or dose escalation to 2 mg **IVP/IN/IO/IM** if initial response is inadequate until ventilations increase (EMT-B can give IN) (SOP)

NALOXONE (Narcan) EMT-B may give IN	Adults: 0.4 mg; repeat to 2 mg IVP/IN/IO/IM if initial response is inadequate. Peds: 0.1 mg/kg to max single dose of 0.4 mg IVP/IN/IO/IM. May repeat in small doses (0.01-0.03 mg/kg) up to 2 mg if needed titrated to maintain ventilations. Half life of naloxone often shorter than half-life of narcotic; repeat dosing often required.
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How did we do?

PBPI results - Dec. 2012

Almost 50% had naloxone given consistent with old, but not current, SOP ☹

Root cause analysis: Default dose of naloxone in Image Trend set to old SOP. PMs selected drug, but did not alter dose when charting, or, they continued to use former (now incorrect) dose.

Actions needed: Change Image Trend default dose. Re-educate on current dosing & why.

How should the initial dose of naloxone be documented if given IVP?

“The illiterate of the 21st century will not be those who cannot read and write, but those who cannot learn, unlearn, and relearn”

Alvin Toffler

Thanks for being a learning community.