

NEMESIS V3 Suggested List – eMedications.03 Medication Given

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eMedications.03 – Medication Given

The code list associated with eMedications.03 (Medication Given) is represented by a selected group of values found in RxNorm. RxNorm is a standardized nomenclature for clinical drugs and drug delivery devices. The process for gaining access to the RxNorm code values is provided at the end of this document.

RxNorm Code Usage Recommendations

RxNorm provides various codes for medications based on the Term Type (TTY). These include but are not limited to: Ingredient (IN), Precise Ingredient (PIN), Brand Name (BN), Semantic Clinical Drug Form (SCDF), Semantic Clinical Drug Component (SCDC), codes indicating the medication strength or concentration or mixtures (Synonym of Another TTY = SY), and many term type dosing options.

The NEMESIS TAC recommends that medications administered by EMS professionals in the pre-hospital setting be recorded and submitted using the Ingredient (IN) code for the large majority of medication names. This is frequently the generic name of the medication. The NEMESIS Version 3 dataset has elements that allow for the separate documentation of the medication route, dosage, and dosage unit using the following three elements:

1. eMedications.04 - Medication Administered Route
2. eMedications.05 - Medication Dosage
3. eMedications.06 - Medication Dosage Units

To review the RxNorm overview, including an introduction, purpose and examples of RxNorm, and its usage please visit <http://www.nlm.nih.gov/research/umls/rxnorm/overview.html>. To see the explanation of the term types see page five (5) of this document.

Suggested List for eMedications.03 Medication Given

The suggested medication description and RxNorm (RxCUI) Code list is designed for the pre-hospital setting. The medication list was developed based upon collaboration between the NEMSIS TAC and EMS Medical Directors at the agency and state level.

Please note the medications are provided based on the Term Type (TTY) and its corresponding RxNorm description (unless otherwise indicated *via italics*). There are 114 medications and five (5) parenteral solutions included in the lists below.

The collaborators recommend the use of “Dextrose” for parenteral administration and “Glucose” for oral administration of sugar based medications/solutions.

RxNorm Medications for EMS in the pre-hospital environment

| Medication | TTY Code | Medication | TTY Code |
|-----------------------------------------------------------------|----------|---------------------------------------------------------------------------|----------|
| Abciximab | IN | Ketorolac | IN |
| Acetaminophen | IN | Labetalol | IN |
| Activated Charcoal | IN | Levalbuterol | IN |
| Adenosine | IN | Lidocaine -- To be used for parenteral administration. | IN |
| Albumin Human, USP -- To cover one aspect of blood products. | IN | Lidocaine <i>Topical</i> -- To be used for topical use administration. | SCDF |
| Albuterol | IN | Lorazepam | IN |
| Alteplase | IN | Magnesium Sulfate | IN |
| Amiodarone | IN | Mannitol | IN |
| Aspirin | IN | Meperidine | IN |
| Atropine | IN | Metaclopramide | IN |
| Benzocaine | IN | Methylprednisolone | IN |
| Bumetanide | IN | Metoprolol | IN |
| Butorphanol | IN | Midazolam | IN |
| Calcium Chloride | IN | Morphine | IN |
| Calcium Gluconate | IN | Nalbuphine | IN |
| Captopril | IN | Naloxone | IN |
| Chitosan -- Topical Hemostatic Agent - Chitosan based | IN | Nicardipine | IN |
| Clonidine | IN | Nitroglycerin | IN |
| Clopidogrel | IN | Nitroprusside | IN |
| D10 (dextrose 10 % Injectable Solution) | SY | Nitrous Oxide | IN |
| D25 (dextrose 250 MG/ML Injectable Solution) | SY | Norepinephrine | IN |
| D50 (dextrose 50 % Injectable Solution) | SY | Normal Saline -- To be used for irrigation: burns, eyes, etc. | IN |
| Dexamethasone | IN | Ondansetron | IN |
| Diazepam | IN | Oxygen | IN |

| Medication | TTY Code | Medication | TTY Code |
|----------------------------------------------|----------|----------------------------------------------|----------|
| Diltiazem | IN | Oxymetazoline | IN |
| Diphenhydramine | IN | Oxytocin | IN |
| Dobutamine | IN | Pancuronium | IN |
| Dopamine | IN | Phenobarbital | IN |
| Droperidol | IN | Phenylephrine | IN |
| Enalapril | IN | Phenytoin | IN |
| Epinephrine 0.1mg/ml (<i>Epi 1:10,000</i>) | SCDC | Plasma Protein Fraction | IN |
| Epinephrine 1 mg/ml (<i>Epi 1:1,000</i>) | SCDC | Potassium Chloride | IN |
| Epinephrine, Racemic Hydrochloride | PIN | Potassium Iodide | IN |
| Eptifibatide | IN | Pralidoxime | IN |
| Esmolol | IN | Prednisone | IN |
| Etomidate | IN | Procainamide | IN |
| Factor IX | IN | Prochlorperazine | IN |
| Factor VIIa | IN | Promethazine | IN |
| Famotidine | IN | Proparacaine hydrochloride | IN |
| Fentanyl | IN | Propofol | IN |
| Flumazenil | IN | Propranolol | IN |
| Fosphenytoin | IN | Quinidine | IN |
| Furosemide | IN | Ranitidine | IN |
| Glucagon | IN | Reteplase | IN |
| Glucose (<i>any oral form or by mouth</i>) | IN | Rocuronium | IN |
| Haloperidol | IN | Sodium Bicarbonate | IN |
| Heparin | IN | Sterile Water -- Included for irrigation. | PIN |
| Hetastarch | IN | Succinylcholine | IN |
| Hydromorphone | IN | Tenecteplase | IN |
| Hydroxocobalamin | IN | Terbutaline | IN |
| Hydroxyzine | IN | Tetracaine | IN |
| Ibuprofen | IN | Thiamine | IN |
| Insulin | IN | Tirofiban | IN |
| Ipecac | IN | Vasopressin | IN |
| Ipratropium | IN | Vecuronium | IN |
| Isoproterenol | IN | Verapamil | IN |
| Ketamine | IN | Ziprasidone | IN |

RxNorm Parenteral Solutions for EMS in the pre-hospital environment

| Parenteral Solutions Name | TTY Code | Parenteral Solutions Name | TTY Code |
|-------------------------------------------|----------|----------------------------------------|----------|
| Lactated Ringer's Solution | IN | Sodium Chloride 3% Injectable Solution | SY |
| Sodium Chloride 0.45% Injectable Solution | SY | D5 (dextrose 5% Injectable Solution) | SY |
| Sodium Chloride 0.9% Injectable Solution | SY | | |

Licensed “Suggested Lists”

The U.S. National Library of Medicine provides access to the RxNorm code values through the Unified Medical Language System (UMLS). An applicant must accept the terms of the UMLS Metathesaurus License and create a UMLS Terminology Services (UTS) account for access to UMLS datasets and terminology browsers.

More information can be found at: <http://www.nlm.nih.gov/databases/umls.html>. RxNorm codes may also be accessed through <http://rxnav.nlm.nih.gov/>

The NEMSIS TAC may only distribute suggested lists with specific value codes from the UMLS system to entities licensed through the UMLS system. Thus, each software developer must seek licensing and provide proof of licensing before gaining access to all of the pre-defined suggested lists available through the NEMSIS TAC.

Access to “Suggested List” Archive Files

Access to suggested code lists will be provided on a special section of the NEMSIS TAC’s SharePoint site. A licensed user will be able to login to the SharePoint site and download the appropriate archive file (RxNorm, ICD-10, etc).

The UMLS license verification service helps determine if the remote user has a license to use and/or distribute certain code sets. If the user does not have a current license, access to the “suggested lists” archive will be denied.

The “suggested list” files will be zipped archives that are automatically created each time one of the licensed code databases is updated in the NEMSIS master data repository.

Conclusions

By maintaining a single source of these data and making it available internally as well as to our customers, we improve our data quality and consistency. This will reduce reporting errors in data submissions provided it is used as part of our own and our customer’s data management best practices.

RxNorm Medication Term Types (TTY)

From the National Library of Medicine website: <http://www.nlm.nih.gov/research/umls/rxnorm/overview.html> .

| TTY | Name | Definition | Example(s) |
|-------|-------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| IN | Ingredient | A compound or moiety that gives the drug its distinctive clinical properties. The preferred name is usually the USAN name. | Fluoxetine, Insulin, Isophane, Human Gentamicin Sulfate (USP) |
| PIN | Precise Ingredient | A specified form of the ingredient that may or may not be clinically active. Most precise ingredients are salt or isomer forms. | Fluoxetine Hydrochloride |
| MIN | Multiple Ingredients | Two or more ingredients created from SCDF. In rare cases when IN/PIN or PIN/PIN combinations of the same base ingredient exist, created from SCD. | Fluoxetine / Olanzapine |
| DF | Dose Form | A complete list of Dose Forms can be found in Appendix 2 of the RxNorm Documentation. | Topical Solution, Oral Tablet |
| SCDC | Semantic Clinical Drug Component | Ingredient plus strength—see section on Rules and Conventions, below, for units of measurement and for rules pertaining to the calculation of strengths. | Fluoxetine 4 MG/ML |
| SCDF | Semantic Clinical Drug Form | Ingredient plus dose form. | Fluoxetine Oral Solution |
| SCD | Semantic Clinical Drug | Ingredient plus strength and dose form. | Fluoxetine 4 MG/ML Oral Solution |
| BN | Brand Name | A proprietary name for a family of products containing a specific active ingredient. | Prozac |
| SBDC | Semantic Branded Drug Component | Branded ingredient plus strength. | Fluoxetine 4 MG/ML [Prozac] |
| SBDF | Semantic Branded Drug Form | Branded ingredient plus dose form. | Fluoxetine Oral Solution [Prozac] |
| SBD | Semantic Branded Drug | Ingredient, strength, and dose form plus brand name. | Fluoxetine 4 MG/ML Oral Solution [Prozac] |
| SY | Synonym of another TTY | Given for clarity. | Prozac 4 MG/ML Oral Solution |
| TMSY | Tall Man Lettering synonym of another TTY | Given to distinguish between commonly confused drugs. | FLUoxetine 10 MG Oral Capsule [PROzac] |
| BPCCK | Brand Name Pack | Branded Drug Delivery Device. | {12 (Ethinyl Estradiol 0.035 MG / Norethindrone 0.5 MG Oral Tablet) / 9 (Ethinyl Estradiol 0.035 MG / Norethindrone 1 MG Oral Tablet) / 7 (Inert Ingredients 1 MG Oral Tablet) } Pack [Leena 28 Day] |
| GPCK | Generic Pack | Generic Drug Delivery Device. | {11 (varenicline 0.5 MG Oral Tablet) / 42 (varenicline 1 MG Oral Tablet) } Pack |