

Subject: MEDICATION ADMINISTRATION A. Administration B. Labeling C. Documentation D. Oral E. Gastrostomy via g-tube/button F. Nasogastric/Orogastric G. Topicals H. Injectable 1. Intramuscular 2. Intradermal 3. Subcutaneous 4. Intravenous I. Intranasal J. Eye Drops/Ointment K. Ear L. Rectal M. Adverse Reactions Type: Core Policy ___ General Policy _X	Section:	Policy Number: PS 589	Page: 1 of 9
	Application: Patient Services Policy and Procedure Manual		Date of Issue: May 2010
	Contact Person: Patient Services Policy and Procedure Council		Supersedes: November 2009
Recommended: Patient Services Policy and Procedure Council	Approved: _____ Paula J. Webb, RN, MSN, NEA-BC Vice President Nursing / CNO		
Review: Initial/Date			

PURPOSE:

1. To provide guidelines for the safe and accurate administration of prescribed medications.
2. To identify who may administer prescribed medications.

A. ADMINISTRATION

Note: Preop antibiotics should be given at the appropriate time prior to surgery start time to provide optimum protection from surgical site infection. See “Label Comments” on the online MAR (OMAR) for administration and infusion instructions of the preop medications.

1. Use the verified MAR or physician order to select medications from the patient’s medication box or automatic dispensing unit.
2. Check the administration time. It may be necessary to administer PRN pain medication 15-30 minutes prior to the prescribed administration time in order to provide adequate pain control for a patient before or after receiving a therapy/procedure. Early administration of pain medication should be limited to once a shift. If the patient demonstrates inadequate pain control with the prescribed time interval, the physician/provider should be contacted for additional pain control orders.
3. Verify the drug name, dose and route on the medication label with the MAR/ physician order.
4. Identify the patient by matching patient demographics on MAR/ physician order to patient’s ID. (See Patient Identification - PS 037) Patient and medication identification labels are used for verification at the bedside.
5. Check the Allergy status.
6. Other considerations
7.
 - a. Patient medications labeled as “Guardrail Required” must be infused using a Smartpump utilizing the Guardrail library (Exception: during a medical emergency or a code or when the delay in obtaining a Smartpump pump would harm the patient.)
 - b. Prior to administration, the following high risk medications are checked by two licensed nursing personnel or authorized personnel with demonstrated and documented competency. Two personnel verification is defined as: 1. Verification of medication administration record; 2. Verification of physician order with continuous infusion; 3. Dose, and that it is appropriate for the patient’s weight; 4. Correct rate of administration; and 5. Correct rate is programmed into the IV pump. The second nurse verification requires the second nurse to go to the bedside to verify that the IV pump programming and rate settings are accurate. The primary nurse responsible for the medication administration will ensure that the nurse that double checked the medication is the co-signer in the medical record and narcotic record when applicable. For rate or dose changes with continuous drips, the primary nurse responsible for the medication administration will document the licensed personnel’s name that verified the medication and rate. For chemotherapy administration, also reference the policy on Antineoplastics, PS 637.
 - 1) Antiarrhythmic drugs
 - 2) Anticoagulants
 - Heparin
 - * concentrations greater than 100units/ml for central lines
 - * concentrations greater than 10units/ml for peripheral IV flush
 - 3) Hyperalimentation

- 4) Chemotherapy (administered by Chemotherapy certified nurses only)
 - 5) Nubain
 - 6) Insulin
 - 7) Narcotics
 - 8) IV Electrolytes excluding IV Fluid admixtures
 - 9) Ketamine- can only be administered by RNs with completed moderate sedation competency in PICU and ED, as well as minor procedure-RNs in the OR
 - 10) Vasoactive drips
 - 11) Milrinone drip
 - 12) Alprostadil drip
 - 13) Terbutaline drip
 - 14) Ethanol Lock
- c. The two (2) authorized Personnel will sign off medication on the MAR or appropriate nursing record after administration. (TPN order sheet or diabetic flowsheet for insulin, etc.)
 - d. The nursing orientee will check all medications with the preceptor for the agreed time (see Medication Agreement Attachment II). In the event of a medication error the occurrence will apply to the orientee and the preceptor.
 - e. The graduate nurse (GN) should not give medications unsupervised by his/her preceptor until notification of passing his/her NCLEX.
 - f. IVPB/Autosyringe (Intravenous Piggyback/Autosyringe) medications are given by RN's and LVN's with demonstrated and documented competency.
 - g. IVP (Intravenous Push) medications are given by RN's and qualified LVN's who have demonstrated and documented competency.
 - h. Licensed radiology personnel who have demonstrated and documented competency may administer IV contrast for diagnostic procedures. Documentation of this will be done in the radiology report.
 - i. Licensed respiratory personnel (RRT, CRT) who have demonstrated and documented competency, and have passed a medication calculation test may administer by inhalation opioids for dyspnea or pain control, e.g., morphine, fentanyl, hydro morphine or furosemide, or other inhaled medications ordered by a physician.
 - j. All staff who will administer medications will complete and pass a medication calculation test prior to administering medications.
 - k. Self or parent/caregiver administration of meds is allowed when preparing a patient for discharge. If there are medications that require special instructions related to administration, a competent parent/caregiver or patient may be allowed to administer the medication(s) under the supervision of the nurse prior to discharge. Education will include nature of the medication(s) to be administered, how to administer the medication(s) including frequency, route, dose, the expected actions and side effects of the medications to be administered and how to monitor the effects of the medication(s) on the patient. Documentation will include the above elements (either spelled out or in summary based on policy statement), evaluation of the parent/caregiver's or patients ability to administer through return demonstration or

other appropriate method. Entry on the MAR should note that the medication was administered by parent/caregiver or patient.

- l. When administration of medication(s), including subcutaneous injections of certain medications (i.e. growth hormones, insulin), has been determined appropriate to facilitate participation in care of the patient (e.g. parent provides primary care at home and medication routine is continued in the hospital), there will be verification that parent/caregiver/patient understands the nature of the medication(s) to be administered, how to administer the medication(s) including frequency, route, dose, the expected actions and side effects of the medication(s) to be administered, and how to monitor the effects of the medication(s) on the patient. Documentation will include verification of the above elements (either spelled out or in a summary based on policy statement), evaluation of the parent's or patient's ability to administer through observation or other appropriate method. Entry on the MAR should note that the medication was administered by parent/caregiver or patient.
- m. When there is increased compliance with parent assisting in oral medication administration and select topical medication applications, the medication administration may be performed by a parent with supervision and documentation by nursing staff. Medications would include those that could be provided safely in the home setting. After documentation of appropriate teaching, subcutaneous injections may be given by the parent. No IV or IM meds will be administered by parents. For this purpose education is required because the medication type and routes are limited and staff will monitor all aspects of medication administration including effect of medication.

NOTE: Each orientee will be given three opportunities to score 100%. If the orientee does not pass the first test, they will retest within one week. The orientee will not be allowed to retest on the same day. The orientee's learning needs will be assessed by the educator and individualized tutoring will be offered. If a second attempt is unsuccessful, he/she will retest within one week.

If the orientee does not score 100% on the third test, formal review process will follow. The review committee will consist of an educator, the Assistant Vice President of education, the Director of Employee Relations and the Director of the orientee's department. This review could result in termination or a final opportunity to test. The fourth test must be completed within one week of the formal review. Failure to successfully pass the fourth test will result in termination.

B. LABELING

A standardized method for labeling all medications will minimize errors. Anytime one or more medications are prepared but are not administered immediately, the medication syringe/vial will be labeled with drug strength, date, time and secured in such a way that it can be readily determined that the contents are intact and have not expired.

At a minimum, all medications are labeled with the following:

- Drug name, strength, and amount (if not apparent for the container)
- Expiration date when not used within 24 hours
- Expiration time when expiration occurs in less than 24 hours
- For all compounded IV admixtures and parenteral nutrition solutions, the date prepared and the diluents

When preparing medications for multiple patients or the person preparing the medications is not the person administering the medication, the label also includes the following:

- Patient name
- Patient location

In surgical or other procedural settings (OR, prep areas, pre-op holding, PACU, medications used by anesthesia providers, radiology and other imaging services, endoscopy units, dental services, and patient care units) where “bedside” procedures are done, when medications are drawn up and put on the sterile field for use during that specific procedure, at a minimum, the label will include the following:

- Medication name
- Medication strength
- Medication amount (if not apparent from the container)
- Expiration date is required if the medication will not be used within 24 hours.
- Expiration time is required if the expiration will occur in less than 24 hours.
- Date prepared and the diluent for all compounded IV admixtures

In most cases of medications and solutions in the procedural setting, only the drug name, strength (concentration), and amount will be needed.

Any remaining medication must be discarded immediately after the case / procedure with the emergency drugs available in the OR / Perioperative areas. They may be discarded at the end of the day.

It is acceptable to purchase and use pre-filled, pre-labeled syringes such as on procedure trays. However, pre-labeling medication and solution containers is not acceptable. The label should be prepared and applied at the time the medication or solution is prepared.

If, during the peri-operative or peri-procedural process, a solution or medication (either in the sterile field or out) is poured, drawn into a syringe, or otherwise used from its original container and immediately administered, or disposed of in some fashion, labeling is not required.

Whenever removing medication/solutions from original container, the original container must be kept in the room for the procedure. If the medication or solution that has been removed from its original container will be used over the course of a procedure, for instance – prep solutions, normal saline used to rinse cardiac valves, local anesthetics, clotting agents, etc. their receiving container must be labeled.

C. DOCUMENTATION - See MAR (PS 586) for guidelines.

D. ORAL MEDICATIONS

1. Use oral syringe and syringe dispenser cap to withdraw liquid oral medications from multi-dose bottles.
2. If necessary crushed pills may be mixed with water, syrupalpa or appropriate food.
Pharmacy may be consulted to determine if crushing is appropriate for admixture methods and compatibilities.

E. GASTROSTOMY VIA G-TUBE / BUTTON

1. Draw up medication as described in B. Oral Medications.
2. Considerations for special instructions such as "take on empty stomach" or "take with food/plenty of liquids" should be considered.
3. Attach the barrel of the syringe to the feeding catheter / g-button and slowly inject medication.
4. Clear the catheter / g-button with water.
 - a. Neonate - 3ml
 - b. Infant – 5ml
 - c. Child greater than 1 yr – 10ml
 - d. Adolescent - up to 30ml
 - e. Or per physician order

F. NASOGASTRIC/OROGASTRIC TUBE

1. Refer to Nasogastric/Orogastric Tube policy, PS 555 for checking proper placement of the nasogastric or orogastric tube.
2. Crush solid medications that are not sustained-release preparations into a fine powder with a pestle or pill crusher. Mix in a small medicine cup with up to 10ml of warm solution (i.e. formula or water).
3. Draw up the solution into an oral syringe and label appropriately. Avoid using hypodermic syringes to avoid inadvertent IV or IM administration of medication. Clear the syringe of excess air.
4. Unclamp tube and prepare for administration of medication after placement verification.
5. Attach syringe to desired tube port and instill medication by slowly and steadily pushing on the plunger.
6. Follow administration of medication with flushing tube with 1-10ml of diluent flush. Air may be used to flush if potential for fluid overload exists, but potential for clogging the tube exists.
7. Clamp the gastric tube for approximately 30 minutes after medication administration if the tube is not in continuous use.
8. Troubleshoot clogged tube: Remove the syringe with medication and attach a 60ml syringe to the NG tube port. Aspirate gently and then apply light pressure to the plunger. May repeat several times. If this does not clear the tube, remove the tube unless contraindicated (i.e. GI surgery). Attempt to identify why the tube clogged to avoid repeating the process. Possible problems may include:
 - a. Medication was incompatible with the diluent.
 - b. Tube was not flushed adequately when previous medications were administered.
 - c. Food-medication interaction
 - d. Drug-drug interaction

G. TOPICALS

1. PRN topical may be left at the bedside. Denote "at bedside" in appropriate column on MAR.

H. INJECTABLE MEDICATIONS:

If injectable medication is not prepared by pharmacy, mix as directed and draw up in a syringe using aseptic technique. Consult package insert and/or label directions, as reference for specific instructions on mixing and administration.

1. IV bags and bottles should be labeled with type of IV fluid. When medications are added, the drug name, dose, date, time and staff initials will appear on the label.
2. **A filter needle will be used to draw up medications supplied in ampules.**
3. For multiple dose vials, label vial with patient's name, date and time reconstituted.
4. Use a tuberculin syringe to draw up doses less than one (1) ml in volume.
5. Insulin syringes may only be used for administration of insulin.

6. Intramuscular Injections:

- a. Guidelines for Needle size-amount of injection:

The smallest needle which is adequate in both gauge and length will cause the least injection site trauma. Needle length may vary according to the amount of subcutaneous tissue present.

Infants: A 25 gauge, 5/8 or a 23 gauge, 1 inch size is preferred. The muscle mass of small infants usually cannot tolerate more than 0.5 ml of medication.

Toddlers: A 22 gauge, 1 to 1½ inch needle is usually acceptable. The maximum amount to be injected into any one site is 1 ml.

Older Age Groups: Needle size as for toddler; the maximum amount into any one site is 2 ml.

Adolescents/Adults: A 22 gauge, 1 to 1½ inch needle. If amount of injection is greater than 2 ml, the ventrogluteal site should be used.

- b. Select injection site, rotating among acceptable pediatric muscle groups.

Age: Less than 5yrs – lateral and anterior aspect of the thigh.

Greater than 5yrs – Dorsogluteal (if well developed), ventrogluteal, deltoid, lateral thigh and anterior thigh.

(See Attachment I)

7. Intradermal Injections:

To administer: The medial surface of the forearm is the most common site for administration. A 25 gauge, 5/8 inch needle should be inserted, bevel up, at a 15

degree angle. No more than 0.1 ml should be injected. A small bleb will form as the fluid is injected.

8. Subcutaneous Injections:

To administer: Use a 26 gauge, 3/8 inch needle or a 25 gauge, 5/8 inch needle. Never give more than 0.5ml to the small child and 1.0 ml to the older child in any one injection. Rotate site frequently.

9. Intravenous Medication:

- a. If medication is not reconstituted by pharmacy, mix medication as directed and draw up in a syringe using sterile technique.
A filter needle must be used to draw up medications supplied in ampules.
- b. Administer medication by syringe pump infusion method, piggyback method or push method as applicable.
- c. When two or more drugs are to be given by IV check for compatibility prior to administration. If medications are incompatible, flush with N/S or appropriate solution before and after administration.

I. INTRANASAL MEDICATIONS

Follow manufactures instructions, physician orders, pharmacy instructions for medication dispensed in nasal spray pumps. Have bulb syringe available to suction patient's nares before instillation if necessary.

J. EYE DROPS OR OINTMENT

1. Position patient in a supine position for proper instillation and to prevent contamination of dropper on tube. Use an assistant as needed.
2. Pull the lower lid down and out to form a cup.
3. Drop the solution into the cup. The medicine will enter the conjunctiva. Close the eye gently.
4. Ointments should be applied along the inner canthus in an outward direction.
5. Avoid touching the tip of the dropper or ointment tube to the body.

K. EAR DROPS

Position patient with affected ear at appropriate angle prior to instillation.

- a. Infants and children less than 3 years, pull ear slightly down and straight back.
- b. Patient more than 3 years pull ear up and back.

Attempt to keep child in same position as instillation for a few minutes to allow medication to enter ear canal.

L. RECTAL MEDICATION

1. Place child in a side-lying or prone position
2. Lubricate suppository or rectal tube with water soluble jelly prior to administration.
3. Gently insert the suppository into the rectum. Do not insert more than ½ inch.

M. ADVERSE REACTIONS

Adverse Drug Reaction: Any reaction to a drug that is undesirable, unexpected, and occurs at doses normally used for the prevention, diagnosis, or treatment of disease. All adverse medication reactions or suspected medication reactions are reported to the Physician, Nurse Manager/Charge Nurse and Pharmacist. An adverse reaction is reported to the Pharmacy by filling out the Adverse Drug Reaction Notification Form (Attachment IV) or by calling 2-ADR (x2237). Pharmacy will enter documentation into medical record upon notification. For vaccine adverse event, complete form and route to pharmacy or phone the pharmacy. (Vaccine Adverse Event Reporting Form – Attachment III)

Immunization Reactions are to be reported on a vaccine adverse event form as per PS 095, Immunizations.

Combined PS 040 (Medications: Administration of Medications and Reporting of Errors/Adverse Reactions) and PS 589 (Medication Administration) in November 2000.

ORIGINAL DATE: March 1982 (PS 040), (PS 589)

REFERENCE:

Bowden, Vicky R., Greenberg, Cindy Smith. *Pediatric Nursing Procedures*. Hippincort Williams & Wilkins. 2003. Chapter 62.

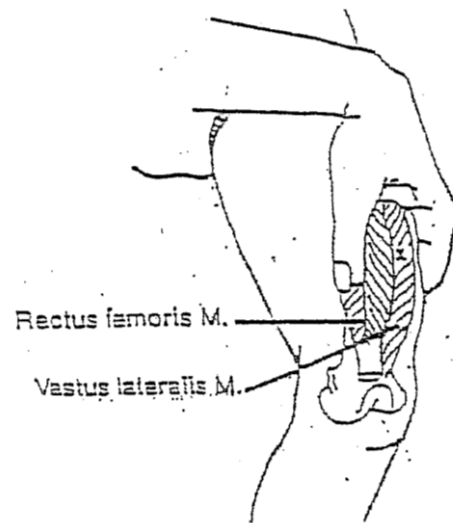
Bowden, V., Greenberg, C. *Pediatric Nursing Procedures*. 2008. Pp 415-418.

The Joint Commission FAQs for 2008 National Patient Safety Goals. Updated 3/08 – published 6/24/08.

Nicoll, Leslie H. and Hesby, Amy. "Intramuscular Injection: An Integrative Research Review and Guidelines for Evidence-Based Practice. *Applied Nursing Research*, Vol 16 No. 2 (August), 2002. pp 149-162.

Wolkhenheim, BJ (Ed). *Pediatric Medication Administration* 2nd ed. pp. 81, 86-91. Milwaukee: Maxishare. 1989.

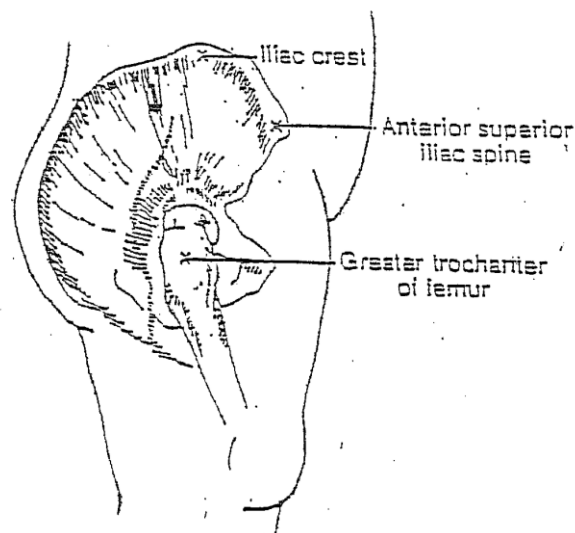
Vastus Lateralis: The vastus lateralis is the major muscle in the anterolateral thigh and is used most often for intramuscular injections in infants. By school-age and adolescence, this site may be more painful than others because of the development of the musculature.



To administer:

Locate the area between the greater trochanter of the femur and the knee. Divide this area into thirds. Give the injection into the middle third, grasping the thigh and compressing the muscle as shown. The needle should be directed on a front-to-back course.

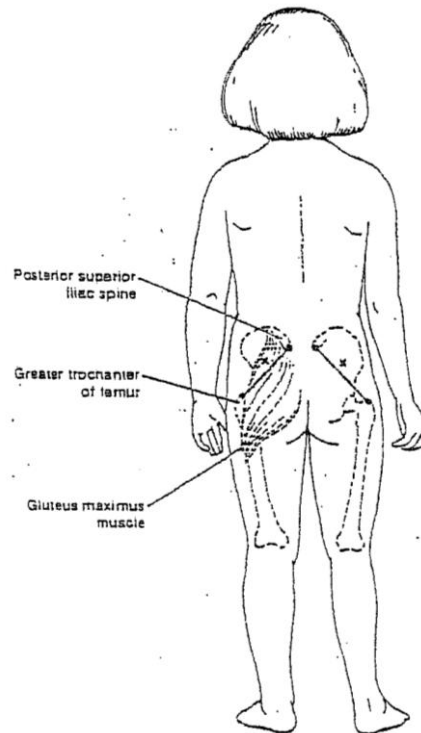
Ventrogluteal Muscles: The ventrogluteal muscles make up the other preferred site for IM injections in infants, although this is a useful site for other age-groups as well. These muscles contain no important nerves or vessels and are accessible when the child is in a variety of positions.



To administer:

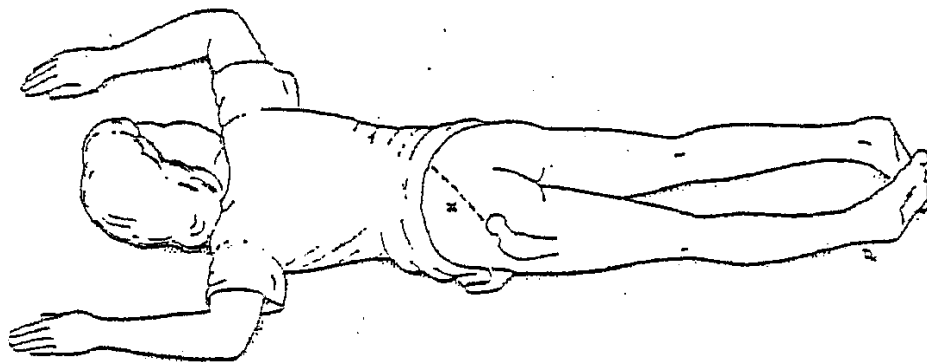
Place your index finger on the anterior superior iliac spine and your middle finger at the iliac crest. Inject the medication just below the iliac crest using a 90° angle.

Gluteal Region: The gluteal muscles are very small and poorly developed in the infant and young toddler. It is not recommended as an injection site until the child has been walking for at least one year since locomotion helps to develop the gluteal musculature.



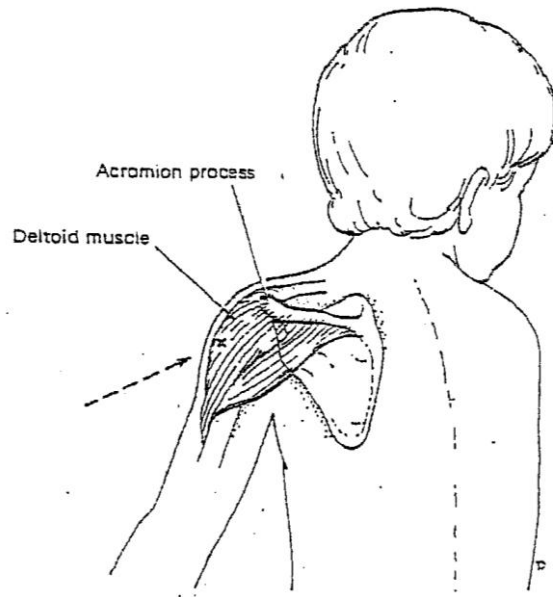
To administer:

Place the child supine and encourage a “toe-in” position as this position will help relax the muscle. Palpate the posterior superior iliac spine and the head of the greater trochanter of the femur. Give the injection superior and lateral to imaginary line between these landmarks. Direct the needle in a straight front-to-back course.



Deltoid: The deltoid muscle in the toddler is shallow and can only accommodate a very small amount of fluid. However, for the school-age and adolescent, the deltoid is the preferred site

for injection. Regardless of age group, repeated injections in this area are painful, so its use should be limited.



To administer: The deltoid muscle is accessible with the child in almost any position. The entire shoulder and arm should be exposed for view. Give the injection in the densest part of the muscle, above the armpit and below the acromion. Grasp the muscle mass firmly and insert the needle slightly upward toward the shoulder.

MEDICATION AGREEMENT
PRECEPTOR/ORIENTEE

I _____ as an orientee, agree to check all medications with my preceptor _____ in _____, for _____ weeks. I understand that any medication errors that may occur during this time will be an occurrence for my preceptor and myself.

Orientee/Date


Preceptor/Date

I _____ as the preceptor for _____ verify that he/she has exhibited competency in medication administration for _____ week/weeks in _____. As of this date, my orientee will be primarily responsible for all medications in _____. Any medication error after this date in _____, will not be an occurrence for myself the preceptor.

Orientee/Date

Preceptor/Date

WEBSITE: www.vaers.org E-MAIL: info@vaers.org FAX: 1-877-721-0366

 VACCINE ADVERSE EVENT REPORTING SYSTEM 24 Hour Toll-Free Information 1-800-822-7967 P.O. Box 1100, Rockville, MD 20849-1100 PATIENT IDENTITY KEPT CONFIDENTIAL				<i>For CDC/FDA Use Only</i> VAERS Number _____ Date Received _____	
Patient Name: Last _____ First _____ M.I. _____ Address _____ _____ _____ City _____ State _____ Zip _____ Telephone no. (____) _____		Vaccine administered by (Name): _____ Responsible Physician _____ Facility Name/Address _____ _____ _____ City _____ State _____ Zip _____ Telephone no. (____) _____		Form completed by (Name): _____ Relation <input type="checkbox"/> Vaccine Provider <input type="checkbox"/> Patient/Parent to Patient <input type="checkbox"/> Manufacturer <input type="checkbox"/> Other Address (if different from patient or provider) _____ _____ _____ City _____ State _____ Zip _____ Telephone no. (____) _____	
1. State	2. County where administered	3. Date of birth mm / dd / yy	4. Patient age	5. Sex <input type="checkbox"/> M <input type="checkbox"/> F	6. Date form completed mm / dd / yy
7. Describe adverse event(s) (symptoms, signs, time course) and treatment, if any			8. Check all appropriate: <input type="checkbox"/> Patient died (date mm / dd / yy) <input type="checkbox"/> Life threatening illness <input type="checkbox"/> Required emergency room/doctor visit <input type="checkbox"/> Required hospitalization (____ days) <input type="checkbox"/> Resulted in prolongation of hospitalization <input type="checkbox"/> Resulted in permanent disability <input type="checkbox"/> None of the above		
9. Patient recovered <input type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> UNKNOWN			10. Date of vaccination mm / dd / yy AM Time _____ PM	11. Adverse event onset mm / dd / yy AM Time _____ PM	
12. Relevant diagnostic tests/laboratory data					
13. Enter all vaccines given on date listed in no. 10					
Vaccine (type)		Manufacturer	Lot number	Route/Site	No. Previous Doses
a. _____		_____	_____	_____	_____
b. _____		_____	_____	_____	_____
c. _____		_____	_____	_____	_____
d. _____		_____	_____	_____	_____
14. Any other vaccinations within 4 weeks prior to the date listed in no. 10					
Vaccine (type)		Manufacturer	Lot number	Route/Site	No. Previous doses
a. _____		_____	_____	_____	_____
b. _____		_____	_____	_____	_____
15. Vaccinated at: <input type="checkbox"/> Private doctor's office/hospital <input type="checkbox"/> Public health clinic/hospital		<input type="checkbox"/> Military clinic/hospital <input type="checkbox"/> Other/unknown	16. Vaccine purchased with: <input type="checkbox"/> Private funds <input type="checkbox"/> Military funds <input type="checkbox"/> Public funds <input type="checkbox"/> Other/unknown		17. Other medications
18. Illness at time of vaccination (specify)			19. Pre-existing physician-diagnosed allergies, birth defects, medical conditions (specify)		
20. Have you reported this adverse event previously? <input type="checkbox"/> No <input type="checkbox"/> To health department <input type="checkbox"/> To doctor <input type="checkbox"/> To manufacturer		<i>Only for children 5 and under</i> 22. Birth weight _____ lb. _____ oz. 23. No. of brothers and sisters _____			
21. Adverse event following prior vaccination (check all applicable, specify) <input type="checkbox"/> In patient <input type="checkbox"/> In brother or sister		Adverse Event _____ Onset Age _____ Type Vaccine _____ Dose no. in series _____		<i>Only for reports submitted by manufacturer/immunization project</i> 24. Mfr./imm. proj. report no. _____ 25. Date received by mfr./imm. proj. _____	
		26. 15 day report? <input type="checkbox"/> Yes <input type="checkbox"/> No		27. Report type <input type="checkbox"/> Initial <input type="checkbox"/> Follow-Up	
Health care providers and manufacturers are required by law (42 USC 300aa-25) to report reactions to vaccines listed in the Table of Reportable Events Following Immunization. Reports for reactions to other vaccines are voluntary except when required as a condition of immunization grant awards.					

ADVERSE DRUG REACTION NOTIFICATION FORM

Adverse Drug Reaction: Any reaction to a drug that is undesirable, unexpected, and occurs at doses normally used for the prevention, diagnosis, or treatment of disease.

Procedure: Complete this form for any suspected adverse drug reaction and forward to the Department of Pharmacy as soon as possible. Addressograph bottom of form, attach a patient identification label, or otherwise complete the patient information section. Suspected adverse drug reactions may also be reported by telephone to the Department of Pharmacy (885-2237).

Do not use this form for medication errors: an Occurrence Report Form should be completed for that purpose.

Date of Reaction _____

Description of Reaction _____

Suspected Drug(s) _____

Submitted by _____

(Patient Identification)

Patient Name _____

Medical Record No. _____

Billing No. _____

Admission Date _____