KAISER PERMANENTE

Los Angeles Medical Center Policies and Procedures

Location: **LOS ANGELES MEDICAL CENTER**	Old Policy Number: **245**	**On-Line Policy Number: 3054**
Section: **OPERATIONS**	Effective Date: **06/98**	Page: **1 of 11**
Title: **LATEX ALLERGIC PATIENTS AND EMPLOYEES, IDENTIFICATION AND CARE OF**	Review / **Revise** Date: 02/00, **07/03, 08/03, 10/03, 11/04, 07/08**	
Approved by: **POLICY & PROCEDURE – 07/08** **MED. EXEC. COMMITTEE – 09/08**	☒ Medical Center Wide ☐ Department Specific	☐ Non-Clinical ☒ Clinical

REFERENCES

Kaiser Permanente Divisional Latex Protein Allergy Exposure Control Plan, 2004.
American Academy of Asthma, Allergy and Immunology (AAAAI), April 1997.
NIOSH Alert: Preventing Allergic Reactions to Natural Rubber Latex in the Workplace, June 1997.
Center for Disease Control

PURPOSE

- To identify patients who have latex allergy or are at high risk for latex allergy, and to prevent or minimize reactions while the patient is within the Los Angeles Metro Service Area.
- To provide information on latex-free/safe alternatives throughout LAMC.
- To provide latex sensitive or allergic members and healthcare workers with consistency in identification, evaluation, management, care coordination, and tracking outcomes.
- To create a latex-safe healthcare environment at LAMC.

DEFINITIONS

Latex-free: term used to describe an environment or product that is completely free of any latex.
Latex-safe: term used to describe an environment in which all-sensitizing latex has been significantly minimized or eliminated.
Low allergen: term used to describe a latex product that has been manufactured in such a way as to minimize the sensitizing latex protein(s) content.
Powder Free/Non-Powdered: Latex and synthetic products that have no added powder.

POLICY

1. All patients with latex allergy will be identified and treated in a latex safe environment.
2. Latex allergy status is added to on KPHC by the Regional Allergy-Immunology Laboratory based on a positive result (>0.35 KUA/L) of the latex antibody blood test (Latex IgE) in order to identify those latex

allergic patients on subsequent admission to the emergency room, cardiac catheterization lab and admissions to the hospital.

PROCEDURE

1. General

A. Latex allergy should be clearly documented on the patient's electronic medical record under the allergy section

B. Wear latex-free exam gloves for any patient contact that requires gloves for personal protective equipment.

1. Use only latex-free supplies when caring for a patient with a known latex allergy

The following departments have Latex-Free Supply Carts:

- Anesthesiology
- Operating Room
- Family and Child Care

2. All other areas (including ED) can order a Latex Free Supply Cart from Central Processing when they are caring for a patient with latex allergy.

3. Latex-free carts will follow patients from the Recovery Area to patient room.

4. The Latex Safe Crash Cart tray (or Pediatric Latex Safer Tackle Box) will be located in the top shelf of the Latex-free Supply cart).

C. Cover all rubber injection ports on IV bags with tape and label in the following way:

1. "Do not inject or withdraw fluid through the latex port".

D. Minimize mixing/agitating lyophilized drugs in vials with rubber stoppers.
E. Label all interdepartmental requisitions as "Latex Allergy".
F. Always wash hands before patient contact or touching items that will contact patient, to remove latex particles from hands.

2. Surgical and OB Patients

A. All patients will be screened for Latex Allergy using the "Screening Questions for Latex Allergy" (EXHIBIT A) in the following locations: Emergency Department (Emergency Surgeries Only) and Surgical Clinics or OB clinics (Elective Surgeries). For Elective Surgery, this questionnaire should be completed during the final Pre-Op visit with the surgeon. The nurse will review the

screening questions on the History and Physical form, and if any of the questions are marked positive, the nurse will verify whether a previously ordered Latex IgE was positive and if not a Latex IgE should be ordered.

B. Any patient indicating a possible allergy to latex (any "yes" answer on question 1 or 2 of the screening questionnaire) should be asked whether they have previously received a Latex IgE blood test to confirm and whether the test was positive.
If unsure, the result can be checked on KPDS. If the blood test has not been performed in the past or was negative, the nurse will notify the surgeon that a Latex IgE test is indicated and write Latex IgE test ordered under the comment section of the Surgical Scheduling Form. The patient should be given the Educational Booklet " About Latex Allergies" (Available through the Health Education Department).

C. The lab slip will be stamped "Pre-Op Latex IgE so that the test will be performed on a Stat basis." There is a 24 hour turn around time for the Latex IgE test if ordered for a pre-operative patient. Results for pre-operative patients will be faxed to anesthesiology and the anesthesiologist will inform the OR nurse in charge.

Addendum: Clarification of "Latex IgE" test results:

- Ordered on HealthConnect as Latex IgE.
- Any result >0.1 KU_A/L is indicative of specific IgE antibodies against latex.
- The test has a sensitivity of ~75% using a cutoff of >0.1 KU_A/L.
- If the history is strongly suggestive of latex allergy, even with a negative ""Latex IgE" test, consult with Allergy.

D. For emergency surgeries, if a patient indicates a possible allergy to latex on the screening questionnaire, he/she must be treated with latex precautions.

E. Any surgical patient with a latex allergy should be scheduled as the first case of the day, whenever possible. The Operating Room and Anesthesia will implement their latex allergy protocol, including use of latex-free supply carts.

F. The surgeon will generate a referral to the Allergy Department for all patients with a positive history for latex allergy and a negative "Latex IgE" to latex.

G. Responsible parties:

1. Surgical clinic nurse
2. Surgeon
3. Double checked by anesthesiologist in anesthesia pre-op clinic

H. Care During Surgery/Delivery
1) Ensure the presence of documentation of latex allergy on patient's chart

2) Patient should wear a latex allergy-alert ID bracelet.
3) Communicate the latex allergy to all health care workers involved in the patient's care, including the recovery area.
4) Items for external use:
   a) If an item for external use does not come in a latex free product take precautions to prevent direct contact with the patient's skin.
   b) Provide a cloth or stockinette barrier between latex and skin.
5) Items for internal use:
   a) If an item is not labeled as latex-free, it may NOT be used until cleared by the manufacturer of the product. Either Materials Management or Pharmacy (depending on the product) should contact the manufacturer by phone. Request a faxed copy of a confirmation that the product is latex-free.
   b) If an item is not a latex-free product, it may NOT be used. If no alternative product is available, contact the overseeing physician for direction.
   c) If the case is not an emergency, contact the physician and arrange for an appropriate alternative product selection.

I. General Information Regarding Allergic Reactions in the perioperative setting
   1) Intraoperative allergic reactions are rare, but have a very significant (3.4%) mortality rate. In contrast to most allergic reactions evoked by IV drugs, which occur in 3 minutes, latex reactions usually occur 20-60 minutes after induction, when sufficient antigen has been absorbed transmucosally. Latex reactions can be delayed for several hours.
   2) Typical anaphylactic reactions include respiratory, cardiovascular and cutaneous symptoms, however when all of the cardinal features are not present, the reaction may mimic a pulmonary embolism, acute Myocardial Infarction, aspiration or vasovagal reaction.
   3) Reactions may be protracted despite vigorous therapy and the type of anesthesia may alter the presentation as well. The treatment of latex anaphylaxis does not differ from that caused by other antigens with the primary elements related to: discontinuing the antigen exposure, maintaining the airway and circulation with the cornerstone of treatment being epinephrine. Note: For patients on Beta-Blockers with refractory shock; Glucagon IV push is first line therapy.
   4) Because the avoidance of latex products is the ONLY measure that can avert a serious allergic reaction to latex, the administration of Histamine blockers preoperatively is NOT effective in preventing an intraoperative allergic reaction.
   5) Intraoperative anaphylaxis can be detected by ordering a stat mast cell tryptase. The test is performed at the Regional Allergy-Immunology laboratory with a turnaround time of ~ 3 hours. It can detect a systemic allergic reaction within 2 hours of the event.

3. Inpatient Nursing Areas/Emergency Department

   A. At the time of triage in the emergency department, the triage nurse will check on HealthConnect to determine if the SHI is tagged for latex allergy.

   B. Admitting Department

1. At the time of Admission, the admitting clerk will check on KP HealthConnect to determine if SHI is tagged for latex allergy. If the patient is latex allergic, the Administrative manager will be notified.

2. Will work in collaboration with the Administrative Manager to identify and assign a private room for the patient that is not a negative pressure room.

C. Administrative Nursing Supervisor

1. The Administrative Supervisor will be responsible for notifying the following services and ensuring the following procedures take place on admission:

Central Processing	Send up Latex-free Supply Cart
Laboratory	Use non-latex tourniquet and supplies
Environmental Services	Remove all latex products from the patient's room
Dietary Services	Review food allergies with patient
Inpatient Pharmacy	Provides non-latex containing medications whenever possible
PT/OT	Only if service needed
Radiology	Only if service needed
Respiratory Therapy	Only if service needed

D. Admitting Nurse on the Unit

1. Place patient in a private room, **not a Negative Pressure room.**

2. Remove/All latex items from the room Do No Allow latex balloons.

3. Order Latex-Free Supply Cart from Central Processing.

4. Post "Latex Allergy" signs on the door of the patient's room and at the head of the patient's bed.

5. Wash hands to remove latex/powder before having contact with the patient or with items that will contact the patient.

   Patients who are not identified as being latex allergic from the SHI screen in ~~KPDS~~ KPHC in the admitting department will undergo screening for latex allergy according to the procedure outlined above for surgical patients (i.e. if any question is answered in the affirmative, the screening questionnaire will be administered and a Latex IgE will be ordered.)

E. Responsible parties:

1. Hospital administrative supervisor
2. Admitting nurse
3. Admitting physician

3. Out patient/Home Health

A. Screening will take place in those areas that utilize latex-containing products for procedures.

B. Screening to be performed prior to procedures that may expose the patient to latex.

C. Screening will involve checking KPHC for SHI and/or previous latex "RAST," administration of latex screening questionnaire, and ordering of latex "RAST," when appropriate, as previously outlined.

D. Schedule latex-allergic patient's appointment/visit as early in the day as possible, to avoid exposing the patient to latex particles that may cling to the health care provider's uniform/clothing and hands.

E. Order Latex-Free Supplies Cart from Central Processing or individual latex free supplies from Materials Management, as needed.

F. Remove latex containing items from room.

G. Wash hands to remove latex/powder before having contact with the patient or with items that will contact the patient.

H. Notify other departments, as needed (e.g. Lab, Radiology, etc.), and label all lab requisitions and radiology requisitions with "Latex Allergy" stickers.

I. Review special IV therapy and/or medication administration needs.
(See "General" Section, #C-D).

J. Responsible parties:

1. Clinic/Home Health Nurse
2. Clinic Physician

4. INTRAVENOUS THERAPY AND MEDICATION ADMINISTRATION

A. If the IV Bag is not "Latex free" the latex port should not be penetrated.
   1) Latex ports should be taped and IV Bags labeled "Latex Allergic" to prevent use.
   2) All syringes within Kaiser Permanente are latex-free.
   3) IV additives may be added through the spike port only.

B. When required, ampules or latex-free vials should be utilized to prepare IV admixtures

C. Use tubing from the latex-free cart for all IV piggyback administrations.

D. All latex stoppers should be replaced with latex-free multi-access adapter.

E. Use only a latex-free heplock if one is indicated.

F. If a latex stopper or medication vial must be punctured, use a new vial for every dose and change the needle before injecting. Do not repuncture vials.

5. Signs And Symptoms of Latex Allergy:

A. Itching Rash
B. Urticaria (hives)
C. Rhinitis (runny nose, sneezing)
D. Conjunctivitis (itchy, swollen eyes)
E. Asthma (chest tightness, wheezing, coughing and shortness of breath)
F. Hypotension
G. Anaphylactic Shock (Respiratory or Cardiac Arrest)

6. Management of Latex Allergic Reactions (to be posted in all crash carts):

A. Remove Latex Agents, if possible. Begin immediate emergency therapy.
B. Call for help.
C. Stop treatment/procedures.
D. Monitor pulse, blood pressure, respiration, and PEFR, if applicable.
E. Support Airway. Administer 100% Oxygen.
F. Indicated for all reactions (urticaria, angiodema, laryngeal edema, bronchospasm and systemic symptoms):

1. Epinephrine (1:1000) 0.3 ml subcut. (range 0.2 – 0.5 ml) May repeat q 10-15 min. x 3, if necessary.

2. Diphenhydramine 1 mg/kg IV or IM (maximum dose 50 mg/dose q 6 h)

3. Ranitidine 0.5 mg/kg IV (maximum dose 50 mg q 6-8 h)

4. Steroids (no immediate effect – onset of action is 6-8 hours)

Moderate to severe reactions – Methylprednisolone 2 mg/kg IV (maximum dose 125 mg)
Mild reactions – Prednisone 40-60 mg PO/day for 2-3 days

5. If systolic BP < 90:

a. Add 0.1 ml epinephrine (1:1000) to 10 ml. Normal saline. Infuse over 10 minutes.

b. Start intravascular volume expansion with Ringer's Lactate or normal Saline to keep systolic BP >90 mm. This may require 2-4 liters over the first several hours.

c. If hypotension persists: Add 1 ml epinephrine (1:1000) to 250 ml of D5W (4 mcg/ml) and infuse at 1 mcg/min (15 ml/hr) Titrate q 5 minutes to maintain systolic BP >90 mm. Maximum dose 4 mcg/min (60 ml/hr)

d. For persistent or refractory hypotension: Dopamine IV drip 2-20 mcg/kg/min (add 400 mg Dopamine to 250 ml D5W = 1600 mcg/ml).

6. For Bronchospasm: Albuterol 1 unit dose (0.083%) nebulized over 10 minutes. Repeat q 15-20 minutes to maximum of 6 doses.

7. Aminophylline (2nd line therapy) 5-6 mg/kg in 30 ml D5W over 20 – 30 min. (loading dose) followed by 0.5-1.0 mg/kg/hr as maintenance. Blood level not to exceed 15 mcg/ml.

8. For patients on Beta Blockers with refractory shock:

   a. Glucagon (first line therapy) 1-5 mg IV push over 2-5 minutes.

   b. Followed by glucagon 1 mg in 1 liter D5W at 5-15 ml/minute to maintain blood pressure >90systolic.

7. Monitoring and Compliance

A. Monitor by Health Information Management Department as part of Clinical Pertinence and reported to Performance Improvement Committee and Infection Control Committee.

B. Monitor by appropriate departments as part of ongoing QM (surgical departments, anesthesia, outpatient departments using latex-containing supplies for procedures, home health).

1. Each area must report on compliance. QM can collect data and present uniform summary.
2. Items for Monitoring:

   a. Compliance with screening questionnaire
   b. Compliance with inpatient screening
   c. Follow-up on allergic reactions in hospital
   d. Lab Services for screening (approx. 100 per month for the Southern California Region)
   e. ER use of screening tool

3. Specific Indicators:

   a. Reaction rate to latex (threshold=0%).
   b. Questionnaire completed by patient and signed by nurse physician.
   c. Latex IgE ordered if any question positive and no prior positive Latex IgE.

8. Education

A. Employees

1. A video on Latex allergy is shown to all new employees in Orientation.

2. The Latex Allergy Policy/ Exposure Control Plan is reviewed with the Nursing staff as part of Nursing orientation.

3. Latex allergy in the annual Safety, Hazards & Infection Control video that all staff must view, and there are 1-2 questions on a post test that each employee fills out.

B. Physicians

Lectures on new developments in latex allergy are provided during regular educational meetings to physicians.

C. Education of patient and family
1. Provide appropriate latex allergy educational materials.
2. Teach patient(s) family to be own advocate in all-healthcare settings and instruct patient to inform all healthcare providers concerning their latex allergy.
3. Encourage patient to wear Medic-Alert identifying their latex allergy.
4. Teach the patient about sign/symptoms of anaphylaxis and what should be done in the event of a reaction outside the hospital/clinic setting.

APPENDIX:

RECOMMENDATIONS

In response to AAAI and CDC recommendations, a National Latex Alternative Team was formed, and has developed specific recommendations for clinical care and practice guidelines.

The Latex Protein Allergy Prevention and Exposure Control Plan provides the essential information, standardized policies and strategies for organizing existing resources to effectively implement these recommendations.

Key recommendations are:

- Healthcare providers should include latex -allergy related questions in establishing, monitoring and recording the patient's medical history. This can be accomplished by incorporating a latex allergy smart phrase into all HealthConnect inpatient admission H&Ps and department appropriate outpatient progress notes (see exhibit A).
- Patients in high risk groups should be identified and tested.
- Patients with spina bifida, extrophy of the bladder or multiple surgeries should be provided a latex-safe environment as a part of their medical care.
- All neonates should be provided a latex-safe environment.
- Patient education should include (but not be limited to): avoiding latex exposure; wearing a Medi-Alert bracelet; carrying a supply of non-latex gloves; and having auto injectable epinephrine with them at all times.

- Non-latex devices and latex-safe areas should be available for latex allergic patients and health care workers (HCWs).
- Powder free, latex and non-latex gloves only, will be used to reduce aeroallergen levels and to decrease the sensitization of HCWs and patients (see current Glove Formulary available from Product Utilization Coordinator or designee at your facility).
- All latex products should be banned from Kaiser Permanente gift stores.
- All crash carts will be stocked with latex free products.
- Latex balloons and other gift items are prohibited on site.
- Employees will be questioned about latex allergy; identified and accommodated as needed.
- Identification of latex allergic members is accomplished through arm banding, care plans, Patient Alert System, etc.
- Patients should be encouraged to wear Medic-Alert identifying their latex allergy.

OWNER/RESPONSIBLE PARTY- Allergy Department

EXHIBIT A

.latex

Latex allergy screening questions smartphrase

1. Does the patient have a history of sneezing, wheezing, itching, rash, swelling, throat tightness, dizziness, or loss of consciousness following exposure to rubber products, or following surgery, dental work, a gynecologic or rectal exam: { YES/NO:10494}?

2. Does the patient have a history of spina bifida, meningomyelocele or more than three urinary tract, abdominal or gynecologic surgical procedures: { YES/NO:10494}?

If latex allergy not already documented and either question above is answered affirmatively, order a latex IgE. If the result comes back, $\geq$0.10 KU_A/L, document a latex allergy in the allergy tab. If the result is <0.10, refer patient to Allergy department.