

Recognized routes of exposure to latex

- ◆ Contact with dipped NRL products (gloves)
- ◆ Exposure to aerosolized latex (glove powder)
- ◆ Exposure to consumer NRL products
- ◆ Cross sensitization from foods
- ◆ Inadvertent exposures

Inadvertent exposure to latex

- ◆ Latex glove and glove powder exposure at work and brought home on clothes and hair
- ◆ Latex glove use by Food Service personnel transferring allergens to food

Latex allergen transfer to foods from food handlers gloves

- ◆ Schwartz HJ. Latex: A potential hidden “food “ allergen in fast food restaurants. *J Allergy Clin Immunol* 95:139-140, 1995 (25 yo and 31 yo with anaphylaxis to fast food prepared with latex gloves)
- ◆ Franklin W, Pandolfo J. Latex as a food allergen. *New Eng. J. Med.* Dec 9:s1858, 1999 (46 yo periodontist with anaphylaxis to OJ stirred with latex glove)
- ◆ Beezhold D, Reschke J, Allen J, Kostyal D, Sussman G. Latex protein: A hidden food allergen? *Allergy Asthma Proceedings* 21:301-306, 2000. (29 yo hygienist anaphylaxis to salad prepared with latex gloves)
- ◆ Bernardini R, Novembre E, Lombardi E, Pucci N, Marcucci F, Vierucci A. Anaphylaxis to latex after ingestion of a cream-filled doughnut contaminated with latex. *J Allergy Clin Immunol.* 2002 Sep;110(3):534-5. (10 yo boy with anaphylaxis to latex contaminated doughnuts)

Case report

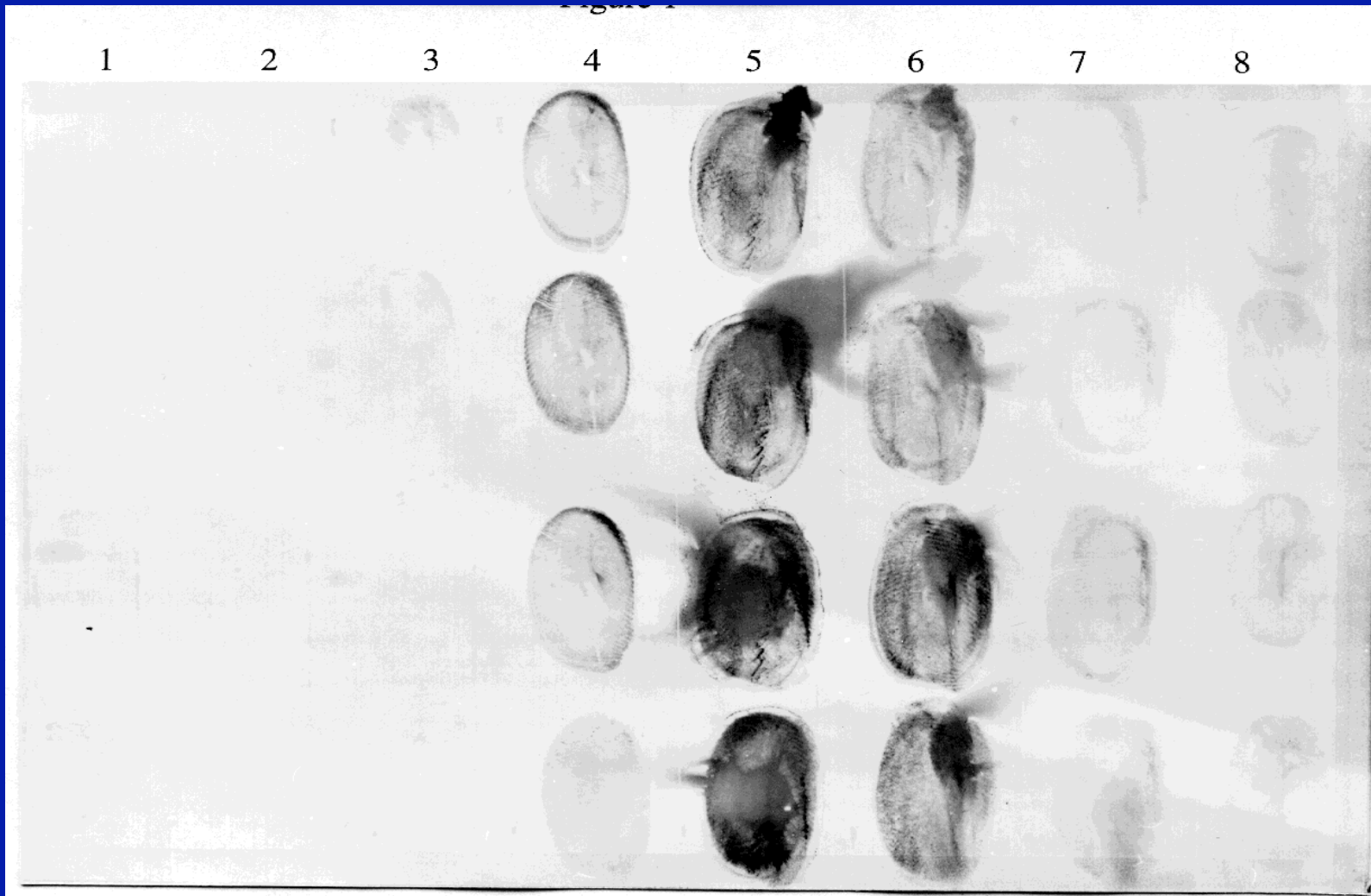
- ◆ 29 yo female dental hygienist
- ◆ Latex allergy diagnose (1994)
- ◆ No symptomatic food allergy but SPT+ to potato
- ◆ 30 min after eating a restaurant salad, has wheezing, angioedema (eyes swell shut), pruritis, throat tightness, lightheadedness, and blacks out.

Protein level of gloves

Glove Sample	Lot # (Exp date)	Lowry	Inh ELISA
A. Vinyl	803050 (NA)	<28	<0.15
B. Vinyl	484302(NA)	114	<0.15
C. Powder-free latex	98I0552 (2003)	<28	<0.15
D. Powdered latex	26128 (NA)	549	26.1
E1 . Powdered latex	170316 (1993)	258	22.9
E2 . Powdered latex	22325 (1997)	168	10.2
E3 Powdered latex	201616B (2001)	90	3.5
E4 . Powdered latex	T01456 (2002)	33	0.7

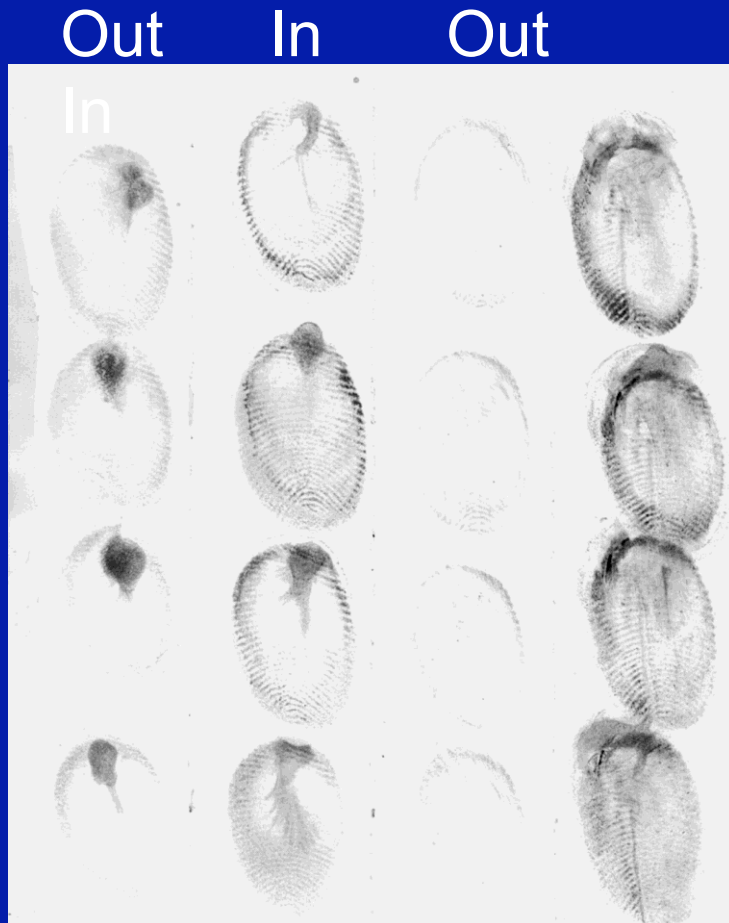
* In June/03, LTS tested a “food service” glove with Lowry of 1040 $\mu\text{g/gm}$

Transfer of latex protein from gloves

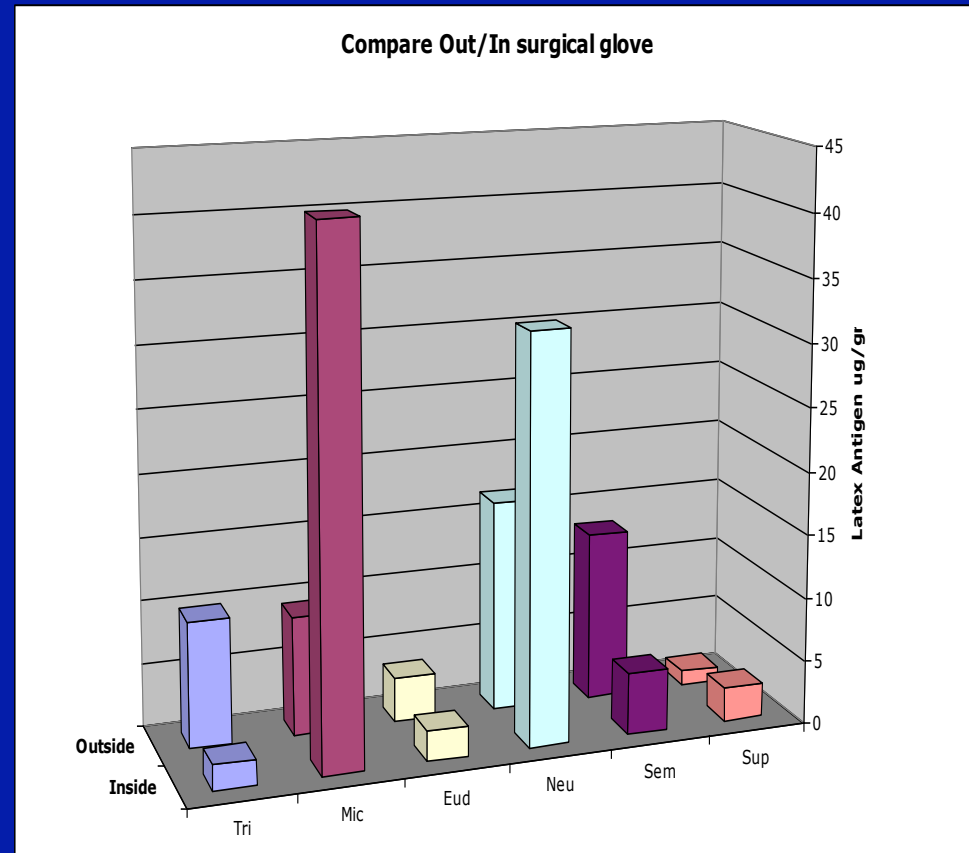


- 1 vinyl
- 2 vinyl
- 3 PF Surgical
- 4 powd Exam
- 5 powd Exam
- 6 powd Exam
- 7 powd Exam
- 8 powd Exam

Comparison of protein levels on the inside and outside of gloves

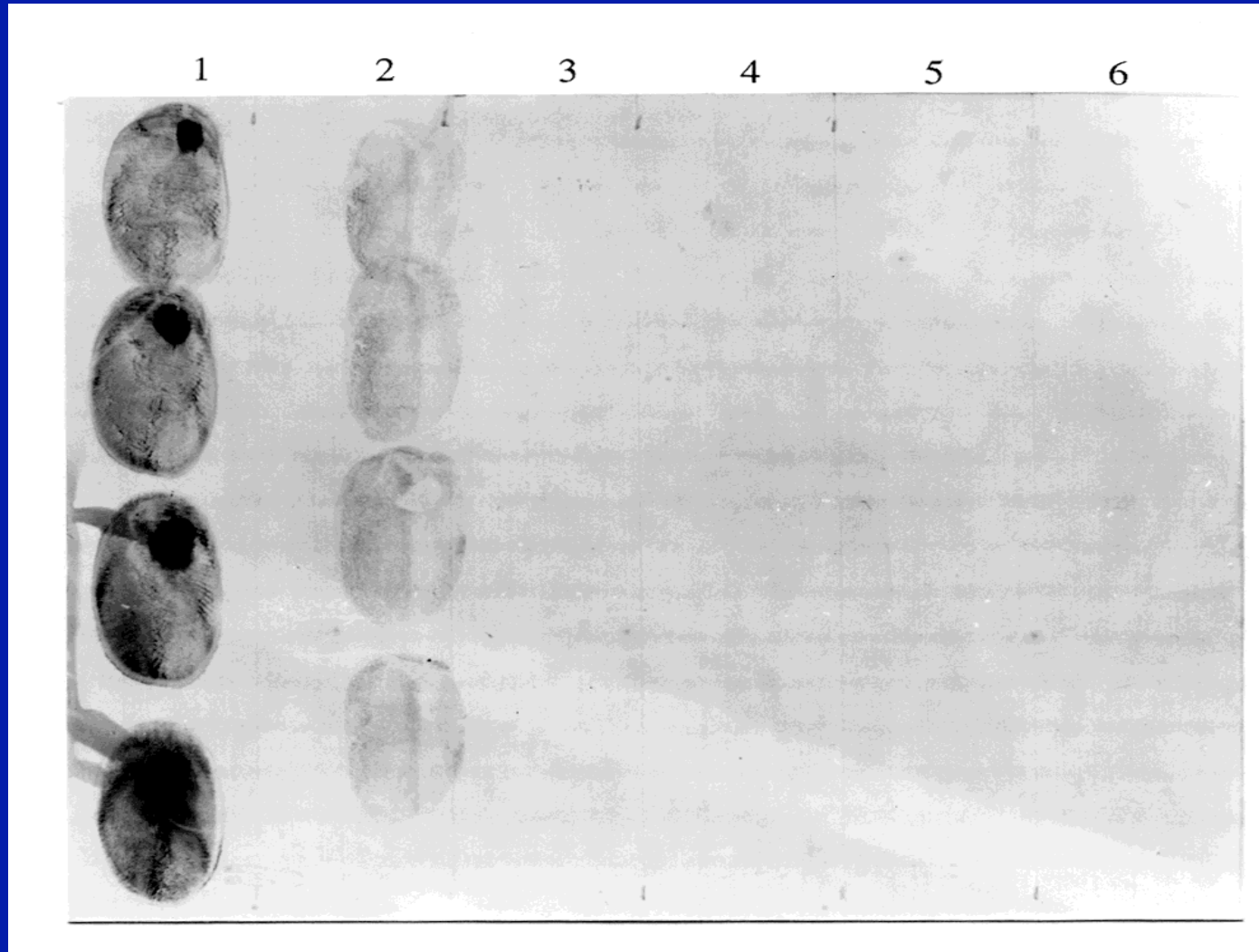


Exam gloves



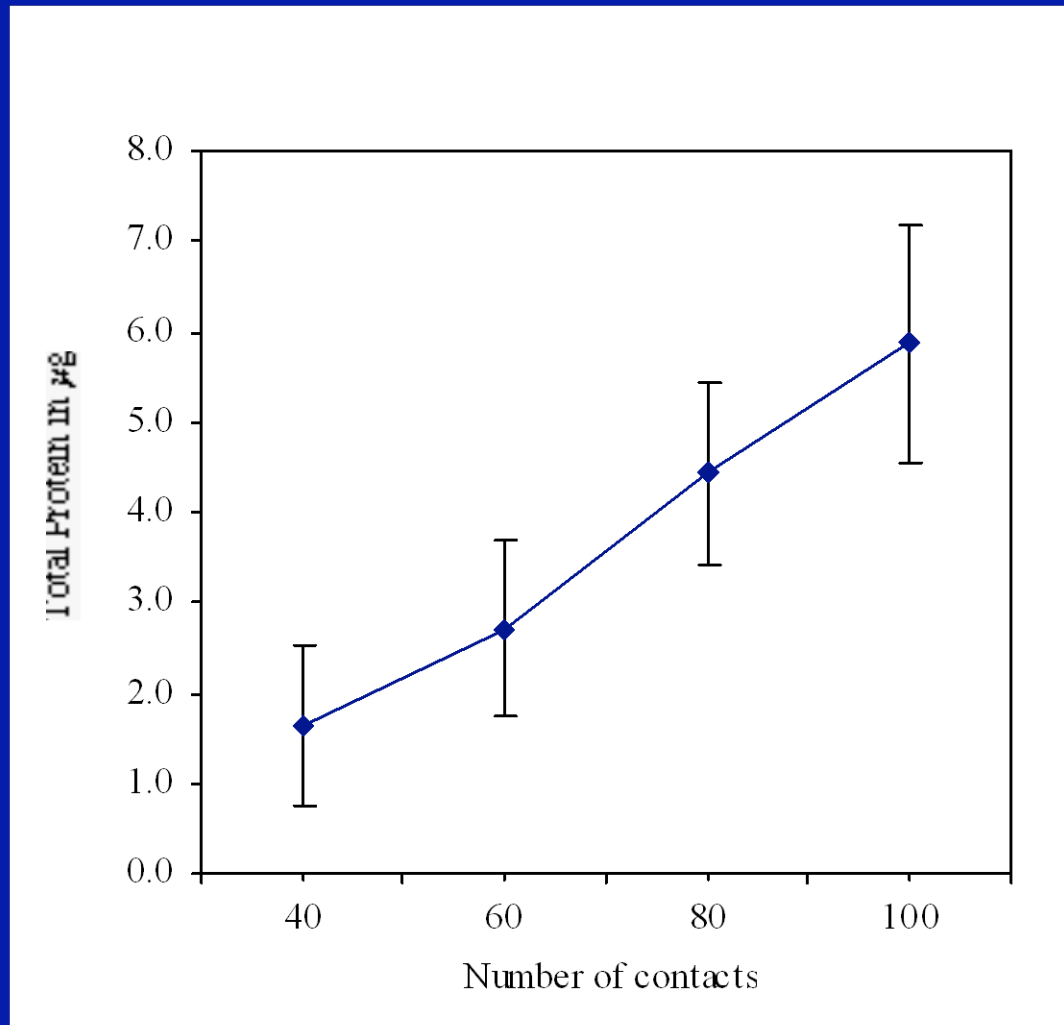
Surgical gloves

Transfer of latex allergen from gloves to food (cheese)



- 1 latex exam control
- 2 transfer to cheese
- 3 vinyl control #1
- 4 transfer to cheese
- 5 vinyl control #2
- 6 transfer to cheese

Transfer of latex protein from gloves to lettuce



Amount of antigenic latex protein transferred

Glove brand and Number of contacts	Total antigen detected (μg)	Amount per contact (μg)
E1, 100	8.76	0.088
E1, 80	6.60	0.083
E1, 60	4.62	0.077
E1, 40	2.94	0.074
None, 0	b.d.	--
A, 100	b.d.	--

* 70 pg/ml can produce a positive SPT in highly sensitized patients

Conclusions

- ◆ Food contact with latex gloves does result in contamination of food with latex proteins
- ◆ This may represent a minor route for sensitization
- ◆ However, food contamination by food handlers gloves can cause significant reactions in unsuspecting latex allergic individuals

Letters supporting removal of latex gloves from food service

- ◆ 3 Latex allergy support groups (Spina Bifida Association, Latex Allergy Support Group (UK), Potomac Latex Allergy Association)
- ◆ 3 MDs (2 with latex allergy)
- ◆ 7 RNs
- ◆ 3 others (hygienist, parents)