Pharmacy Driven Immunizations

Walgreens CE
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Discloser

I have no financial disclosers.

Objectives

- Gain a basic background knowledge of the different vaccines, administration, and adverse effects
- Recognize the role technicians have in promoting and assisting with immunizations
- Review the Rhode Island laws for pharmacy administered vaccines

Background

Definitions

Immunity: state resulting in being resistant

Antigen: evokes antibody production

Antibody: acts to eliminate antigen

Background

Mechanisms

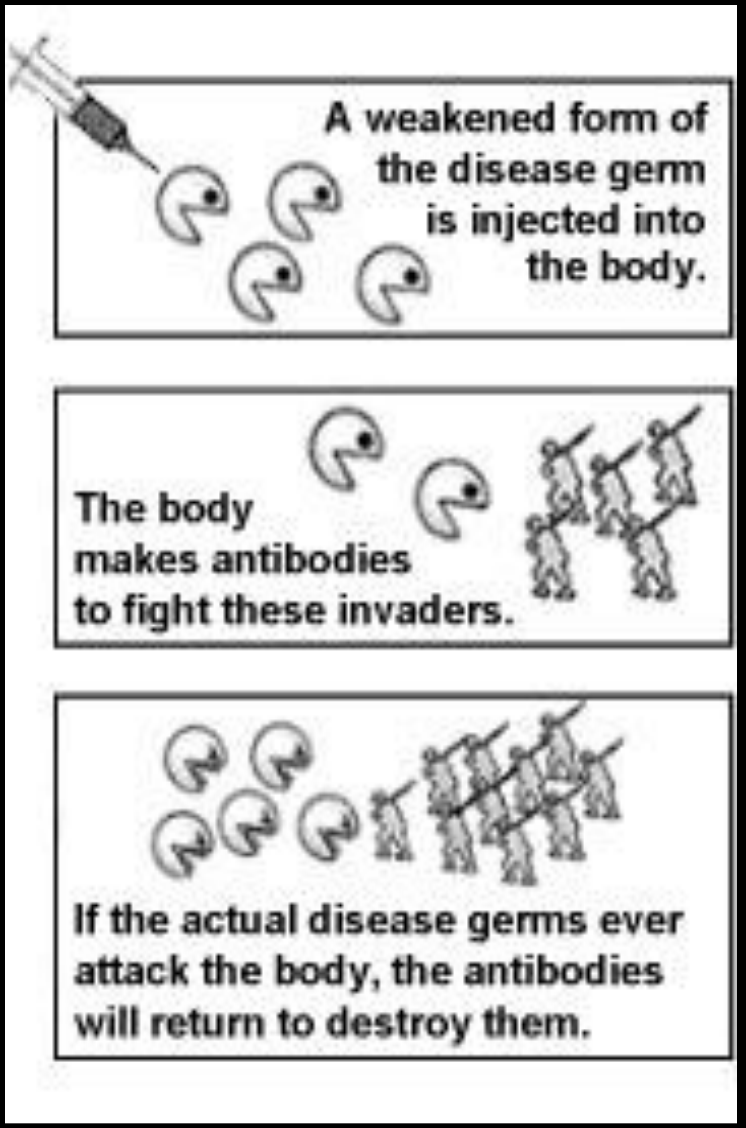
Active: individuals own immune system

Passive: produced by animal or human and passed to another

Background

Vaccination is the process of producing active immunity.

- Live, Attenuated Vaccines
  - Produced by modifying virus or bacteria
- Inactivated Vaccines
  - Inactivated bacteria or virus by using heat or chemical


A weakened form of the disease germ is injected into the body.
The body makes antibodies to fight these invaders.
If the actual disease germs ever attack the body, the antibodies will return to destroy them.

Administration of Multiple Vaccines

- Inactivated and live vaccines may be given in combination at the same time.
- Separate live vaccines from antibodies such as blood products. Inactivated vaccines are not affected.
- If not given at the same time, a 4-week interval should be observed between live vaccines.

Contraindications and Precautions

- *Contraindication*: condition that increases risk of an adverse reaction or decreases the effect of the vaccine.
- *Precaution*: condition that ***might*** increase risk of an adverse reaction or decreases the effect of the vaccine.

True contraindications to vaccine administration

Safety concern	Reason for contraindication and recommended action
Previous anaphylactic reaction to a specific vaccine	Avoid revaccination with the specific vaccine because of risk of recurrence
History of anaphylaxis to eggs or egg-protein	Avoid measles, mumps, influenza and yellow-fever vaccine because these vaccines are prepared in embryonated chicken eggs or cultures and vaccines may contain residual egg protein
Previous anaphylactic reaction to neomycin or streptomycin	Avoid measles, mumps, rubella (MMR) vaccine because the MMR vaccine contains trace amounts of neomycin
History of severe systemic reactions to the cholera, typhoid or plague vaccine	Avoid revaccination with the specific vaccine because of risk of recurrence
Adults who are immunocompromised as a result of disease or its treatment	Avoid live virus vaccines because there is an increased risk of viral replication in immunocompromised individual [See related card]
Household members of immunocompromised patients	Avoid oral polio because vaccine induced disease (if it occurs) could be transmitted to the immunocompromised individual. This concern does not apply to the MMR vaccine because infection with vaccine strain measles, mumps or rubella is not transmitted to others [See related card]
Pregnant women	Avoid all live virus vaccines because of the potential risk to the fetus [See related card]

Data from: American College Physicians Task Force on Adult Immunization and Infectious Diseases Society of America. Guide for adult immunization. Philadelphia. American College of Physicians, 1994; Centers for Disease Control and Prevention. MMWR Morb Mortal Wkly Rep 1994; 43:1; and Gershon, AA, Gardner, P, Peter, G, et al. Clin Infect Dis 1997; 25:782.

Barriers to Immunization

- Missed opportunities during contact
- Lack of vaccine delivery systems
- Patient and provider fears
- Provider concerns about efficacy

Vaccine Side Effects or Adverse Reactions

- Fall into 3 categories:
  - Local, systemic and allergic
- Local reactions include: pain, swelling and redness at the site
- Systemic reactions include: fever, general discomfort, muscle aches, headache, loss of appetite
- Severe (anaphylactic) allergic reaction is rare

Pneumococcal Disease

- *Streptococcal pneumonia* is responsible for diseases such as:
  - Pneumonia (lungs)
  - Meningitis (brain and spinal cord)
  - Sepsis (blood)
  - Otitis media (ear)

13-Valent Conjugated Polysaccharide Vaccine (PCV13)

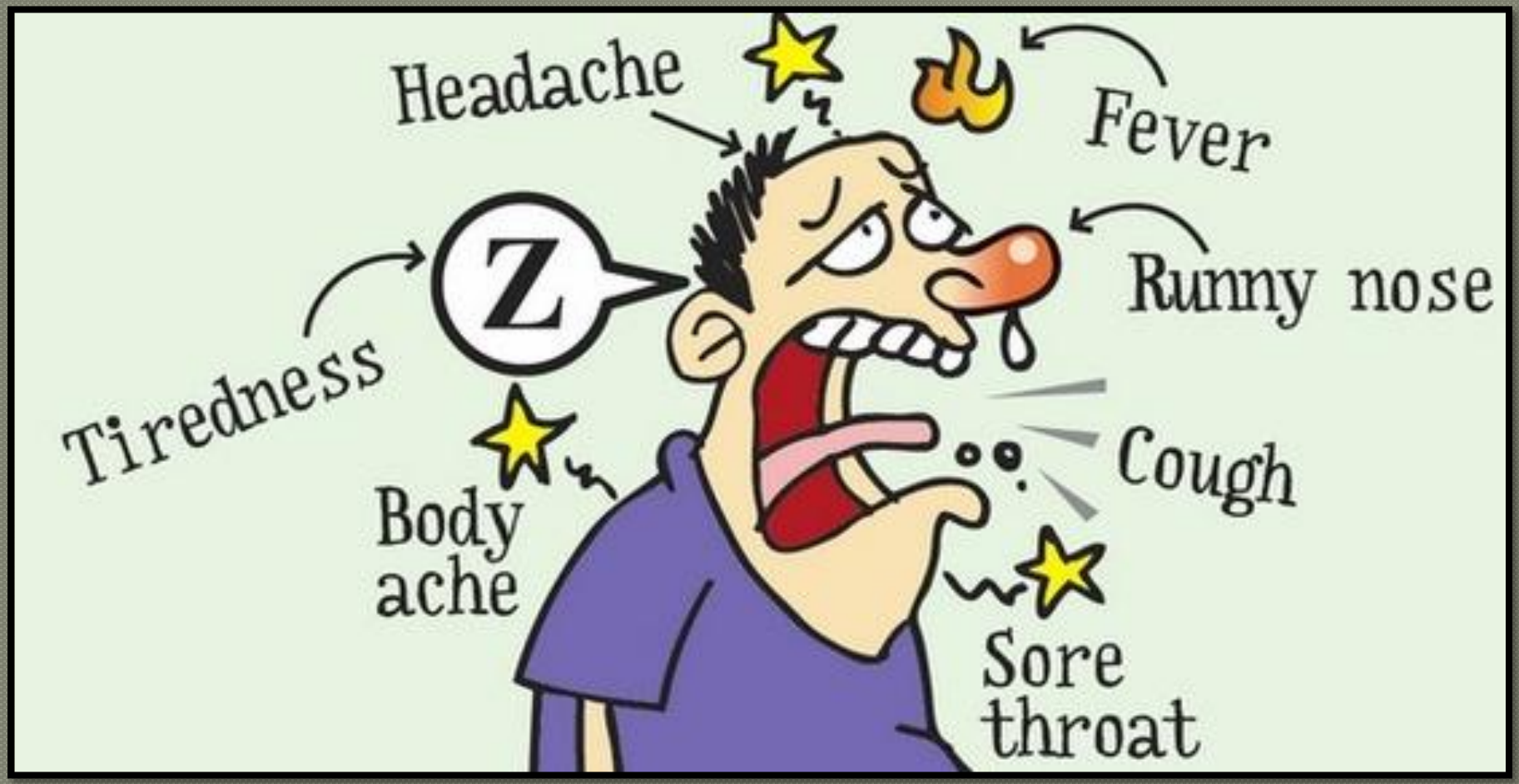
- Prevnar 13®
- Indications
  - Routine vaccination for all infants < 2 y.o. given at 2,4,6 and 12-15 months
  - Recently approved by FDA for a single dose in adults 50 years or older
- Storage/Administration
  - Store in refrigerator (do not freeze)
  - Shake vial or prefilled syringe prior to use
  - Intramuscular (IM)

23-Valent Polysaccharide Vaccine

- Pneumovax-23®
- Indications
  - 65 years + (all)
  - 2-64 years with chronic illness
  - 19-64 years if smoke or asthma
- Storage/Administration
  - Store in refrigerator (do not freeze)
  - Shake vial or prefilled syringe prior to use
  - 0.5 mL intramuscular (IM) or subcutaneous (SC)

23-Valent Polysaccharide Vaccine

- Pneumovax-23®
- Revaccination
  - All adults with 1 dose if 1st dose was 5 years earlier and < 65 years old
  - Age 2-64 years if high risk give 2nd dose 5 years after initial dose (sickle cell, immune compromised, asplenia)


Headache
Fever
Z
Tiredness
Runny nose
Body ache
Cough
Sore throat

Influenza

Influenza

- 20,000-40,000 deaths during epidemics
- Virus is shed in respiratory secretions for 5-10 days

- clinical features include:
  - abrubt onset
  - fever
  - myalgias
  - sore throat
  - nonproductive cough
  - headache

Influenza

- CDC recommends yearly flu vaccine
- A flu vaccine protects against 3 viruses

- People at high risk of serious flu complications include:
  - young children, pregnant women, asthma, diabetes, heart or lung disease and people ≥65 years

Influenza

- Indications:
  - all persons > 6 months of age
  - 6 months – 35 months: 0.25 mL/dose
  - 3+ years: 0.5 mL/dose
- Contraindications:
  - egg allergy
- Precations:
  - History of Guillian-Barre, within 6 months prior
  - Defer in moderate-severe acute illness

Trivalent Inactivated Influenza Vaccine (TIV)

- Afluria®, Agriflu®, Fluvirin®
- The regular seasonal flu shot is IM which means it is injected into muscle
- It has been used for decades
- Regular flu shots make up the bulk of the vaccine supply

Live Attenuated Influenza Vaccine (LAIV)

- Flumist®
- Flu nasal spray

- Indications
  - Age 2-49 years, if healthy*

- Administration:
  - Intranasal 0.2 mL divided between the two nostrils

True or False??

A 21 year old smoker that is afraid of needles can receive the Flumist® nasal spray flu vaccine.

Flublok®

- Trivalent vaccine FDA approved for use in adults ages 18 to 49 years
- Flublok® does not use the influenza virus or chicken eggs in its manufacturing process
- Shorter shelf life, expiration 16 weeks from the production date
- Faster manufacturing

Fluzone®

- *Fluzone ® High-Dose*
- Indications:
  - ≥ 65
  - Currently the Advisory Committee on Infectious Diseases on Immunization Practices (ACIP) has no preference for the high dose in elderly

- *Fluzone ® Intradermal*
- Indications:
  - 18-64 years only

Can the flu vaccine give me the flu?

- No, a flu vaccine cannot cause flu illness
  - the vaccine given with a needle is made either with:
    - a) flu vaccine viruses that have been 'inactivated' and are therefore not infectious
    - b) with no flu vaccine viruses at all
- The nasal spray flu vaccine does contain live viruses
  - but the viruses are weakened and therefore **cannot cause flu illness**
    - The weakened viruses are cold-adapted, which means they are designed to only cause infection at the cooler temperatures found within the nose

I’ve already had the flu so I don’t need the shot.

- Even if you've had the flu this year you are still susceptible to other strains of flu

True or False??

The most common side effect of the Flu shot is a runny nose and fever.

Herpes Zoster/Shingles

- Anyone who has had chicken pox is at risk for developing shingles
- It is estimated that 1 million or more cases occur each year in the United States
- Shingles can occur in people of all ages
- A rash or blisters appear on the skin, generally on one side of the body
- Because the nerves along the path become inflamed, shingles can also be painful
- Pain that lasts for months after the rash has healed is called post herpetic neuralgia or PHN
- This pain can be severe and chronic

Herpes Zoster/Shingles

- Zostavax®
- Indication:
  - anyone 60 years old and older
- Contraindicated:
  - Immuno-compromised
  - Pregnant
  - Hypersensitivity to gelatin or neomycin
- Storage/Administration
  - Keep vaccine frozen and protect from light
  - Store diluent in refrigerator or room temperature
  - Reconstitute immediately upon removal from freezer
  - Inject within 30 minutes or discard
  - Inject subcutaneously in fatty tissue at triceps

Pertussis (Whooping Cough)

- A highly contagious respiratory disease
- Known for uncontrollable, violent coughing which often makes it hard to breathe

- Someone with pertussis often needs to take deep breathes which result in a "whooping" sound

- Pertussis most commonly affects infants and young children and can be fatal, especially in babies less than 1 year of age

- The best way to protect against pertussis is immunization

Tdap

- Adacel®, Boostrix®
- Indications:
  - Adults aged < 65 who have not previously received Tdap or for whom vaccine status is unknown
    - Postpartum women
    - Close contacts of infants younger than age 12
  - Adults aged > 65 who have not previously received Tdap and who have close contact with an infant less than 12 months
  - Pregnant women > 20 weeks gestation if they need a booster

Patient preparation and care

- **Screening**
  - **All patients should be screened for contraindications and precautions every time**
- **Vaccine Safety & Risk Communication**
  - **Parents/guardians are exposed to information via the media, internet and peers**
  - **Immunization providers should be prepared to discuss the benefits and risks of vaccines as well as vaccine preventable diseases**

Rights of Medication Administration

- The right patient
- The right vaccine or diluent
- The right time
- The right dosage
- The right route, needle length, and technique
- The right site
- The right documentation

Rhode Island Pharmacy Immunization Laws

- Qualifications:
  - A pharmacist may administer immunizations to persons who are at least 18 years of age
  - May administer any immunization available in accordance with manufacturers' guidelines and established guidelines by the CDC ACIP for administration
  - Pharmacist must complete accepted form of immunization training

Rhode Island Pharmacy Immunization Laws

- Qualifications:
  - The pharmacist shall possess evidence of current basic cardiopulmonary resuscitation (CPR) training
  - Complete at least one (1) hour of continuing education in immunizations each year
  - No pharmacist may delegate the administration of immunizations to another person, except for a licensed intern

Rhode Island Pharmacy Immunization Laws

- Written policies and procedures that include no less than the following:
  - Plan including when to refer patient
  - Procedures for emergency situations
  - Record keeping/documentation
  - Handling of disposal
  - Distribution of the appropriate Vaccine Information Statement (VIS)
  - Adverse Events Reporting System (VAERS)
  - Notation of prescription in profile if applicable

Rhode Island Pharmacy Immunization Laws

- **VAERS** is a national vaccine safety surveillance program co-sponsored by the CDC and the Food and Drug Administration (FDA)

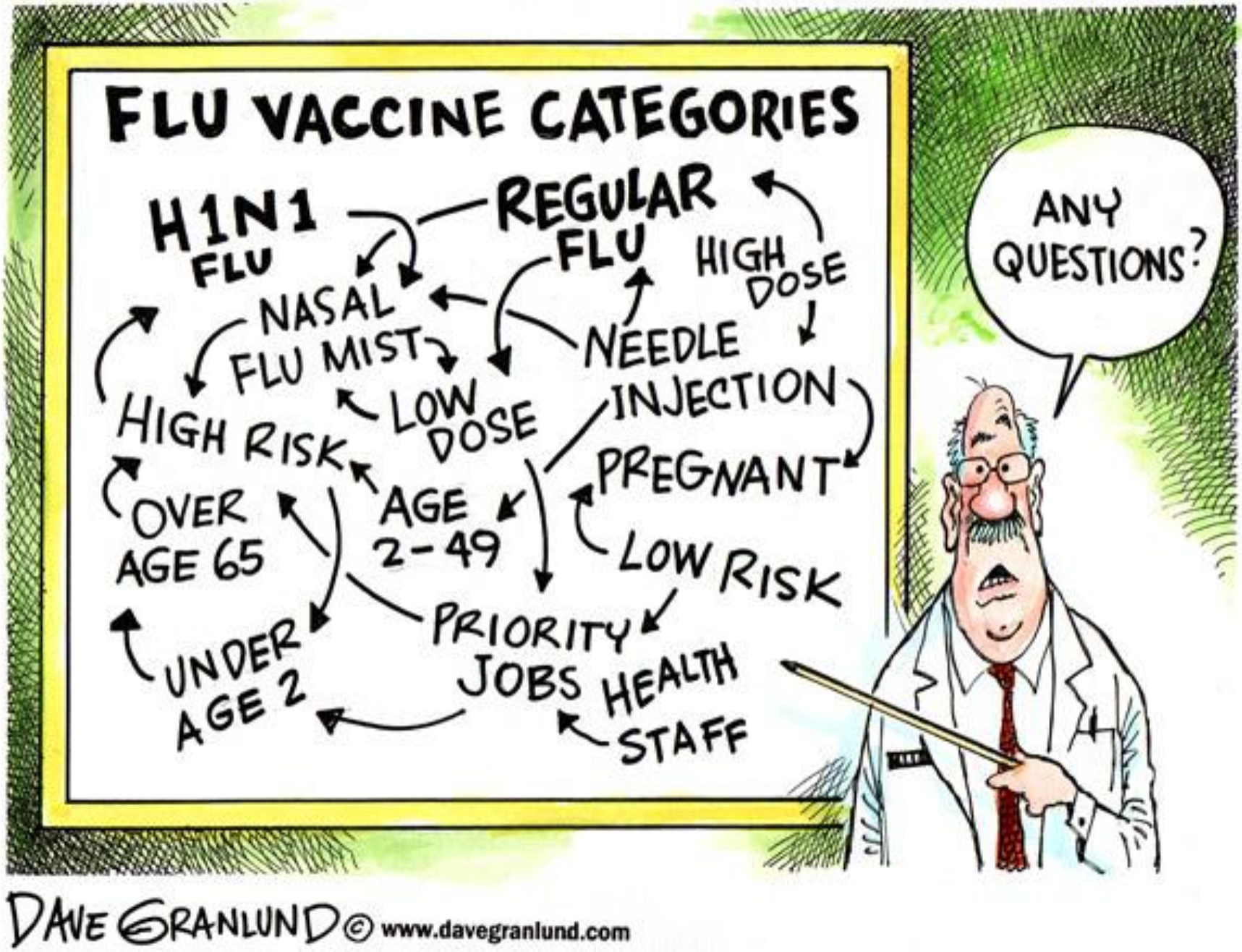
- **VISs** explain both the benefits and risks of a vaccine to vaccine recipients and federal law requires that VISs be handed out for certain vaccinations

Rhode Island Pharmacy Immunization Laws

- Prescriber Protocols:
  - Pharmacist can immunize with a prescription, or by protocol established between pharmacist and prescriber
  - Protocol shall be reviewed no less than every two (2) years
  - The immunizing pharmacist shall provide written notification of a patient's immunization to the primary care provider, if known, within fourteen (14) days
  - The only vaccination that can be given without prescription or protocol in the state of Rhode Island is the influenza vaccine in patients 18 years of age or older

Rhode Island Pharmacy Immunization Laws

- Record Keeping and Reporting:
  - a) name, address, and date of birth;
  - b) Date of the administration and site of injection
  - c) Name, dose, manufacturer, lot number, and expiration date
  - d) Name and address of the patient's primary health care provider
  - e) Name or identifiable initials of the immunizing pharmacist
  - f) Publication date of the Vaccine Information Statement (VIS)
  - g) Date that the VIS was provided to the patient
- The immunization records shall be maintained for no less than five (5) years


FLU VACCINE CATEGORIES
H1N1 FLU
REGULAR FLU
HIGH DOSE
NASAL FLU MIST
NEEDLE INJECTION
LOW DOSE
HIGH RISK
PREGNANT
OVER AGE 65
AGE 2-49
LOW RISK
PRIORITY
UNDER AGE 2
JOBS
HEALTH STAFF
ANY QUESTIONS?
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