Go To Clinical Case

While caring for this client, be sure to review the concept maps in chapters 3 and 4.

Case 2: Hypersensitivity Reaction and Abdominal Pain

Related Concepts: Cognition, Infection, Inflammation
Threaded Topic: Growth and Development

Ryan Herrill is a 6-year-old child being seen for a routine well-visit as a new patient whose family recently moved to the rural desert southwest from the eastern United States. As the nurse obtains the health history from Ryan's parents, it is apparent that Ryan's childhood has not been a healthy one.

Nursing | Flow Sheets | Provider | Labs & Diagnostics | MAR | Collaborative Care | Other

Nurse Think HEALTHCARE SYSTEM

Name: Ryan Herrill
Health Care Provider: J. Knight M.D.
Code Status: Full

Age: 6 years
Allergies: PCN, sulfa, latex, dairy, gluten, eggs, pet dander, nuts

HEALTH HISTORY

Medical History

- Multiple allergies
  - Intolerance noted to gluten, dairy, and eggs - since age 9 months - cause severe diarrhea, nausea, and vomiting.
  - Nut allergy – since age 2 years – cause difficulty breathing. Also reactive to nut "dust."
  - Penicillin (PCN) and sulfa – causes severe rash.
  - Latex allergy – "mild" anaphylactic reaction at age 3 years.
  - Seasonal allergies to certain tree blossoms and pet dander – itching eyes, running nose, coughing.
- Asthma – since age 1.
- Reoccurring strep throat since age 2 – typically once each winter.
- Fracture of right arm and clavicle from a bicycle accident at age 5.

Surgical History

- Surgical repair of right arm fracture age 5 (outpatient).

Mental Health History

- Treated for attention-deficit/hyperactive disorder (ADHD) since age 3 – treated with cognitive-behavioral therapy and methylphenidate orally since starting school.

Hospitalizations

- Ages 9 months, 3-years, and 5-years for severe diarrhea and weight loss.
- Ages 2 and 4 for asthma.

Developmental Level

- Meets physical developmental milestones. Height 40 inches (101.6 cm) and Weighs 36 pounds (13.6 kg).
- "Slow" in school and parents are considering "special classes" or homeschooling with tutoring.

Immunization History

- Received routine immunizations at 12 months. Parents have refused all immunizations since due to severe allergy history. "We are afraid of what could happen and wonder if the immunizations could have caused all of this."

Copy pg

Determine Ryan's percentile for height and weight.

_____ *Height.* _____ *Weight.*

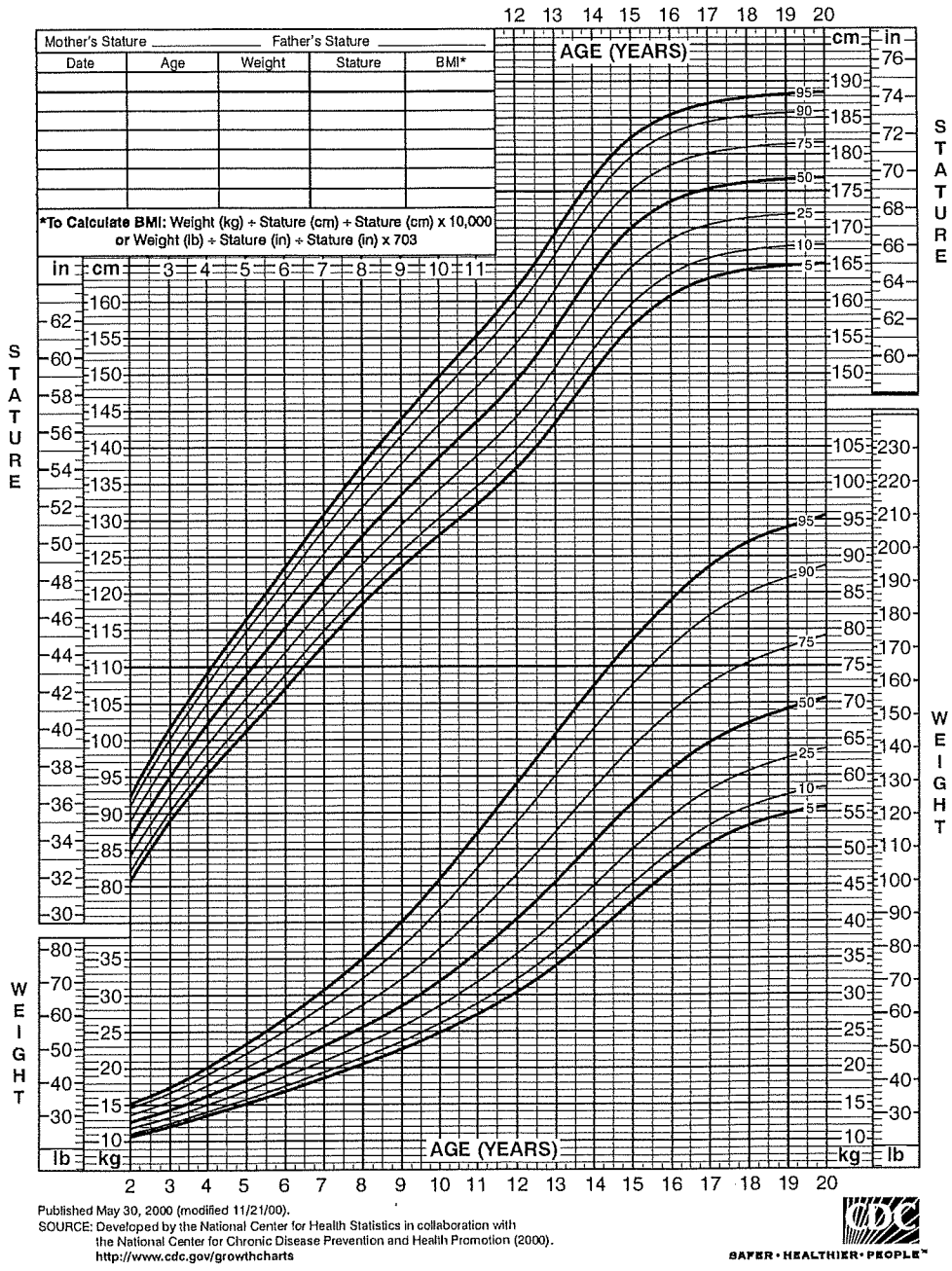
Next Gen Clinical Judgment: Go to the CDC website and compare the wide variety of Growth Charts.

Scan to link to the CDC website.
www.cdc.gov/growthcharts/cdc_charts.htm

2 to 20 years: Boys
Stature-for-age and Weight-for-age percentiles

NAME _____

RECORD # _____



Published May 30, 2000 (modified 11/21/00).
SOURCE: Developed by the National Center for Health Statistics in collaboration with the National Center for Chronic Disease Prevention and Health Promotion (2000).
http://www.cdc.gov/growthcharts

SAFER · HEALTHIER · PEOPLE™

2. **As the nurse reviews the health record, what condition is the priority concern?**
   1. ADHD.
   2. Allergies.
   3. Asthma.
   4. Lack of immunizations.

3. **The nurse reviews Ryan's list of allergies, finding many concerns. Place each allergy in order of concern from highest to lowest. ____, ____, ____, ____, ____.**
   1. Gluten and dairy.
   2. Nuts.
   3. PCN and sulfa.
   4. Latex.
   5. Seasonal.

4. **What is the nurse's priority teaching topic for Ryan's parents?**

   _____

5. **The clinic is not a latex-free zone. As the nurse prepares for Ryan's physical assessment, which item(s) require special attention? Select all that apply.**
   1. Gloves.
   2. Blood pressure cuff.
   3. Oxygen saturation.
   4. Adhesive tape.
   5. Inhaler spacer.

6. **As the nurse is speaking with Ryan's parents and examining him, he becomes very fidgety and won't stay on the examination table. What action should the nurse take?**
   1. Tell him to sit still and he can have candy after the visit.
   2. Ask the parents to address the situation.
   3. Give Ryan a small age-appropriate toy.
   4. Ignore the behavior.

7. **The nurse is concerned about Ryan's lack of immunizations. Although she wants to be respectful of the parent's personal decision, she feels it is in Ryan's best interest to pursue the topic. Relying on the recommendations of the American Academy of Pediatrics (AAP), how should the nurse begin the conversation with the parents?**
   1. "Do you know that the American Academy of Pediatrics fully supports the delivery of routine immunizations for children?"
   2. "Can you tell me more about your concerns about Ryan receiving immunizations?"
   3. "Are you afraid that Ryan will get sick from the other kids at school since he's not immunized?"
   4. "It seems that you are placing Ryan in danger by not getting him immunized."

After a conversation with the nurse and health care provider, Ryan's parents provide consent for immunizations if an antihistamine is given beforehand. The nurse delivers the antihistamine, then gathers latex-free equipment for the injections and two automatic epinephrine injectors, to be safe. She then reviews the Center for Disease Control (CDC) immunization record, knowing that Ryan had all of his immunizations at 12 months.

Next Gen Clinical Judgment: Obtain the correct immunization record and determine the appropriate immunizations for Ryan.

Scan to link to the CDC website.
www.cdc.gov/vaccines/schedules/index.html

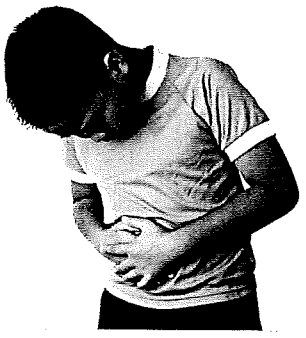
8. **Which immunization(s) should Ryan receive? Select all that apply.**
   1. Hepatitis B.
   2. DTaP.
   3. PCV13.
   4. IPV.
   5. MMR.
   6. Tdap.

Clinical Hint: There are several charts for immunizations based on age. Always be certain that you are looking at the correct one for your client.

9. **After the immunizations, the clinic continues to monitor Ryan for 1 hour for signs of an immediate hypersensitivity reaction. Which symptoms should the nurse anticipate should this occur? Select all that apply.**
   1. Rash.
   2. Difficulty breathing.
   3. Sleepiness.
   4. Runny nose.
   5. Eye swelling.

10. **NurseThink® Prioritization Power!**
    As the nurse prepares to discharge Ryan from the clinic, what are the **Top 3 Priority** discharge instructions for his parents?
    1. _____
    2. _____
    3. _____

Two weeks after the immunizations, Ryan gets home from school, telling his mother that he feels "yucky. He has a low-grade fever and says his tummy hurts. His mom feeds him a snack, thinking he may be hungry and gives him some ibuprofen for the fever. She lays him down for a nap while watching cartoons.



Ryan wakes up crying with pain. He says "my tummy hurts, my tummy hurts" but cannot identify where the pain is. His mother takes him to urgent care. They complete an assessment and find his pain is worse in the right lower quadrant. They decide to send Ryan to the emergency room for diagnostic tests.

Review the emergency room record.

Nursing | Flow Sheets | Provider | Labs & Diagnostics | MAR | Collaborative Care | Other

Nurse Think HEALTHCARE SYSTEM

Name: Ryan Herrill
Health Care Provider: J. Knight M.D.
Code Status: Full

Age: 6 years
Allergies: PCN, sulfa, latex, dairy, gluten, eggs, pet dander, nuts

NURSING NOTE

Oct. 15 1830	6-year-old boy with stomach pain was sent to the emergency department by the urgent care health care provider. History of asthma, and multiple allergies. Gluten intolerant but mother states "he's never had a stomach ache like this before. T 101°F (38.3°C), respirations 28 breaths per minute, heart rate 128 beats per minute, blood pressure 100/60 mmHg, oxygen saturation 95%. Tenderness noted in the right lower quadrant, hypoactive bowel sounds. Some nausea, no vomiting. Last bowel movement yesterday which "looked normal." Lungs with minimal expiratory wheezes.

Nursing | Flow Sheets | Provider | Labs & Diagnostics | MAR | Collaborative Care | Other

Nurse Think HEALTHCARE SYSTEM

Name: Ryan Herrill
Health Care Provider: J. Knight M.D.
Code Status: Full

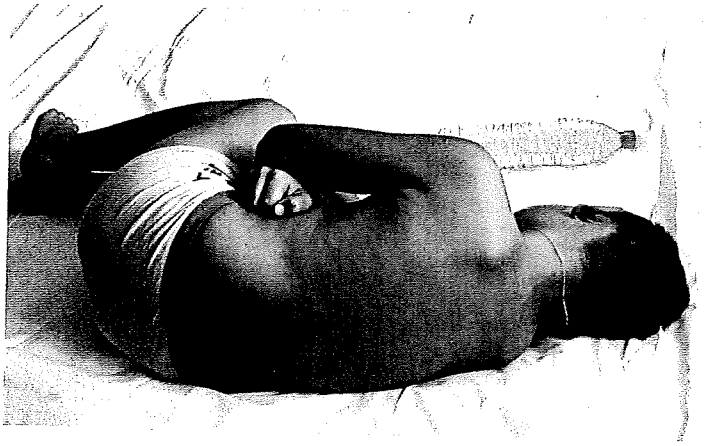
Age: 6 years
Allergies: PCN, sulfa, latex, dairy, gluten, eggs, pet dander, nuts

LABORATORY REPORT

Lab	Normal	Oct. 15
WBC	4,000 - 10,000 µL	**15,000 H**
Hemoglobin	12.0 - 17.0 g/dL	**11.1 L**
Hematocrit	36.0 - 51.0%	45
RBC	4.2 - 5.9 cells/L	**3.9 L**
Platelets	150,000 - 350,000 µL	245,000
Calcium	9 - 10.5 g/dL	9.1
Chloride	98 - 106 mEq/L	98
Magnesium	1.5 - 2.4 mEq/L	2.0
Phosphorus	3.0 - 4.5 mg/dL	3.1
Potassium	3.5 - 5.0 mEq/L	3.8
Sodium	136 - 145 mEq/L	139
Glucose	70 - 100 mg/dL	80
BUN	8 - 20 mg/dL	20
Creatinine	0.7 - 1.3 mg/dL	1.0

11. **What hypothesis can the nurse make, given this information?**
    1. Ryan has a delayed reaction to his immunizations.
    2. Ryan ate a food to which he is allergic.
    3. He is having a difficult time at school and wants to stay home.
    4. It is possible that Ryan has developed appendicitis.

12. **The nurse enters Ryan's room. What observation is most concerning?**



13. **Ryan has a ruptured appendix and surgery is scheduled within the hour. Complete the chart below pertaining to the preoperative care.**

	Indicated	Non-essential	Contraindicated
Delivery of IV antibiotic.			
Preoperative teaching with family.			
Parenteral signature on consent.			
Confirmation of correct ID band.			
Verbal hand-off to operating room nurses and anesthesiologist about allergies.			
Confirmation that IV is patent			
Instruction of postoperative pain management options.			
Oral medication for prevention of allergic reaction.			
Prophylactic placement of an indwelling catheter.			

14. **After surgery, the post-anesthesia care unit calls the nurse to give report. Ryan's surgery went well and he is stable. They'd like to know which room he will be going to after surgery. The charge nurse evaluates the room choices on the unit. Which is the best bed placement for Ryan? Check the best option.**

☐ **Room 245**
Bed 1: Open
Bed 2: 15-month-old girl with asthma

☐ **Room 246**
Bed 1: 14-year-old boy with a fracture, in traction.
Bed 2: 16-year-old boy with a football head injury.

☐ **Room 247**
Bed 1: 7-year-old boy on neutropenic precautions.
Bed 2: Open

☐ **Room 248**
Bed 1: 3-year-old girl with pneumonia – lots of visitors
Bed 2: Open

☐ **Room 249**
Bed 1: 6-year-old girl post-appendectomy.
Bed 2: Open

☐ **Room 250 – 4 Bed Ward**
Bed 1: 9-year-old boy with newly diagnosed diabetes.
Bed 2: 8-year-old boy to be discharged this afternoon.
Bed 3: Open
Bed 4: 10-year-old boy with a MRSA infection.

☐ **Room 251**
Bed 1: Open
Bed 2: Open

☐ **Room 252**
Bed 1: Open
Bed 2: 7-year-old boy newly diagnosed with Crohn's disease.

15. **The nurse reflects on the assessment over the last 6 hours since surgery. What information requires additional action?**

1. Bowel sounds are absent.
2. Pain was worse before surgery.
3. Lung sounds with wheezes throughout.
4. Abdominal incision with a dime-sized drop of dried blood.

16. **NurseThink®Prioritization Power!**

Evaluate the assessment change above and pick the **Top 3 Priority** assessments required at this time.

1. _____
2. _____
3. _____

With further assessment, the nurse discovers that Ryan's oxygen saturation is 92%, his breathing is mildly labored, and his eyes are "puffy." The nurse places Ryan on 2 L of oxygen per nasal cannula and decides to contact the health care provider.

17. **The nurse gathers a full set of vital signs and begins to prepare SBAR for the health care provider. Complete each section of the communication form.**

S – _____

B – _____

A – _____

R – _____

Clinical Hint:
S - Situation
B - Background
A - Assessment
R - Recommendation

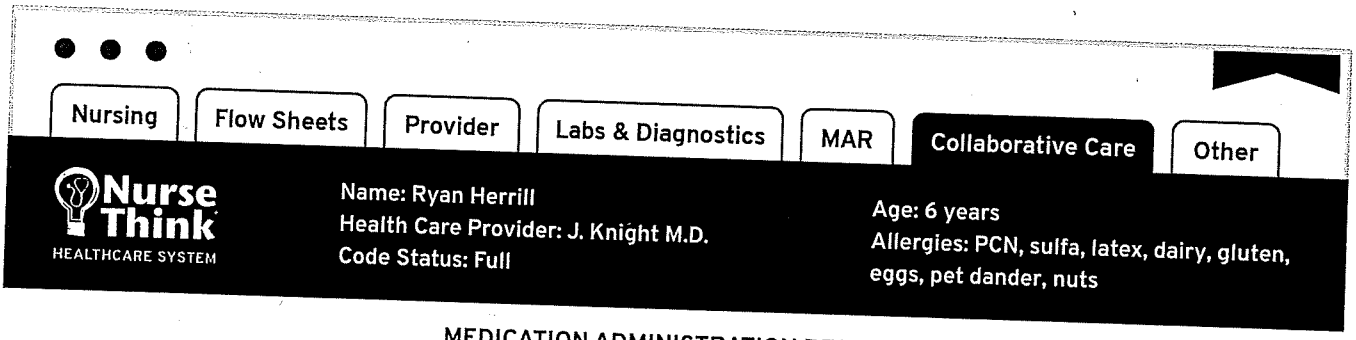
18. **The nurse receives an order for epinephrine 0.01 mg/kg (1:1,000 solution) subcutaneous x 1 dose. Available in 1 mg/mL (1:1,000 solution). What sized syringe will the nurse use to pull up the medication?**

_____ mL _____ sized syringe

Ryan's condition improves after the dose of epinephrine. Once he is stabilized, the nurse reviews the medication administration record to determine what may have caused the allergic reaction.

Next Gen Clinical Judgment:

- How does the nurse know that the epinephrine is effective?
- What action would the nurse take, should the initial dose of epinephrine not be effective?
- What is the worst-case scenario should the epinephrine not work?



MEDICATION ADMINISTRATION RECORD

Oct. 16
0400

1. Piperacillin 100 mg/tazobactam 12.5 mg per kg IV every 8 hours.
2. Vancomycin 10 mg/kg IV every 6 hours.
3. Morphine sulfate 0.15–0.3 mg/kg IV every 4 hours PRN for severe pain.
4. Acetaminophen 15 mg/kg/dose IV every 6 hours PRN for mild pain or temperature > 100.5°F (38°C).

19. **Which medication from the MAR is most concerning?**

1. Piperacillin/tazobactam.
2. Vancomycin.
3. Morphine sulfate.
4. Acetaminophen.

20. **As Ryan is discharged, his mother says "None of this would have happened if Ryan wouldn't have had those immunizations." How should the nurse respond?**

_____

_____

Conceptual Debriefing & Case Reflection

1. Compare the impaired protection that Ana Maria Martinez experienced with the impaired protection of Ryan Herrill. How are they the same and how are they different?

2. What was your single greatest learning moment while completing the case of Ana Maria Martinez? What about Ryan Herrill?

3. How did the nursing care provided to Ana Maria Martinez and Ryan Herrill change the outcome for each of them?

4. Identify safety concerns for both Ana Maria Martinez and Ryan Herrill for each case.

5. In what areas of each case study was basic care and comfort utilized?

6. What steps in each case did the nurse take that prevented hospital-acquired injury?

7. How did the nurse provide culturally sensitive/competent care?

8. How will learning about the case of Ana Maria Martinez and Ryan Herrill impact the care you provide for future clients?

Fundamental Quiz

1. **A postoperative client's temperature is 95.9°F (35.5°C). What additional assessment findings should the nurse anticipate? Select all that apply.**
   1. Cool fingers and toes.
   2. Capillary refill < 3 seconds.
   3. Diaphoresis.
   4. Perioral cyanosis.
   5. Goosebumps.

2. **A client is receiving the first dose of chemotherapy. What priority teaching point should the nurse include before discharge?**
   1. "You will be more tired than usual and need to rest frequently."
   2. "You may have some vomiting from the medication and should maintain hydration."
   3. "You are at a higher risk for infection and should not be around anyone that is ill."
   4. "You'll want to eat small frequent meals to maintain your nutrition."

3. **A client experiencing chronic inflammation of the joints is asking about some natural home remedies. What could the nurse suggest? Select all that apply.**
   1. Increased intake of Omega-3 fatty acids.
   2. Cardiovascular exercise like running or distance bike riding.
   3. Mind-body activities like yoga and tai-chi.
   4. Reduce exposure to toxins within the environment.
   5. Get at least 7 hours of sleep each night.

4. **A nurse is teaching about the use and over-use of antibiotics. Which statement is correct?**
   1. Antibiotic use is contraindicated in bacterial infections.
   2. Overuse of antibiotics can lead to antibiotic resistance.
   3. Antibiotics should be taken until symptoms subside.
   4. Antibiotics have a low incidence of allergic reactions.

5. **The nurse is determining immunizations for a 5-year-old preparing for school. Use the immunization record on the CDC website to determine which immunization the child requires. Select all that apply.**
   1. DTap.
   2. IPV.
   3. MMR.
   4. VAR.
   5. Hep A.
   6. IIV.

Advanced Quiz

6. **The nurse is caring for a client who "doesn't feel very well." Assessment includes temperature 100.9°F (38.3°C); heart rate 110; respirations 24 breaths per minute. The nurse reviews the labs below. What actions should the nurse take next?**

Lab	Normal	August 5	August 6
WBC	4,000-10,000 cells/mL	9,000	**15,100 H**
Hemoglobin	12-17 g/dL	**11.0 L**	**10.9 L**
Hematocrit	36-51%	**38 L**	**34 L**
RBC	4.2-5.9 cells/L	**3.80 L**	**3.6 L**

   1. Evaluate which antibiotics the client is receiving.
   2. Assess the blood pressure.
   3. Request a serum lactate level.
   4. Ask the client to describe 'not feeling well.'

7. **A client with a pale-yellow productive cough tells the nurse that the sputum is becoming thicker and a darker yellow. The client does not have a fever or elevations of the white blood cells. The lung sounds are course crackles that clear with coughing. What actions should the nurse take next?**
   1. Collect a sputum specimen and obtain an order for a culture and sensitivity.
   2. Obtain suction for the bedside.
   3. Obtain an order for an incentive spirometer.
   4. Encourage the client to drink more water.

8. **The nurse is evaluating the head and neck of a client and discovers a grape-sized lump where the lymph nodes are located. What question(s) should the nurse ask next? Select all that apply.**
   1. "Do you have a family history of cancer?"
   2. "Have you had a recent infection?"
   3. "Is this painful?"
   4. "Have you noticed this lump before?"
   5. "Do you have other lumps like this?"

9. **The nurse is taking care of a critical client whose body temperature is 103.9°F (39.9°C). Which interventions should the nurse consider? Select all that apply.**
   1. Remove covers.
   2. Place on cooling blanket or place ice packs in the armpits and groin.
   3. Deliver acetaminophen 1,000 mg IV.
   4. Cool the room.
   5. Place a fan on the client.

10. **An immune-compromised client is being treated for a leg wound infection which has minimal redness and is unchanged since admission. The client's temperature has increased to 99.9°F (37.7°C). What should be the nurse's next action?**
    1. Document the findings.
    2. Assess the white blood cell count.
    3. Deliver acetaminophen 650 mg orally.
    4. Elevate the leg on 2 pillows.