Pediatrics Board Review

7th EDITION
Your EFFICIENCY BLUEPRINT To Passing The Pediatric Boards

EASY & EFFICIENT LEARNING SO THAT YOU CAN ENJOY LIFE & HAVE MORE FUN!

www.PediatricsBoardReview.com

• 100% Money Back Pass Guarantee •

Written by Ashish Goyal, MD

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PEDiATRICS BOARD REVIEW

Your Certification SYSTEM for Passing the Pediatric Boards

• 100% Money Back Pass Guarantee •
• MASSIVE Online Community •
• Board-Focused, Manageable Content •
• Powerful Mnemonics •

EFFICIENT LEARNING So You Can Enjoy Life & Have More Fun!

Written By Ashish Goyal, MD

Edited By Dr. Michael Blyth (A PBR Alum)

www.PediatricsBoardReview.com
INTRODUCTION TO THE PBR EXPERIENCE! (Please Read This!!!)

Hi! My name is Ashish Goyal. I’ve been fortunate enough to help thousands of pediatricians with their board review experience through the “PBR.” I’m a double-boarded physician living on the most isolated landmass in the world, yet some of my greatest success stories come for pediatricians across the United States.

My favorite stories are those from pediatricians who had previously failed 4–6 times before they found the PBR, but then passed by using the PBR Certification System. Those wonderful success stories clearly show that the PBR system is perfect for first-time AND repeat test takers. While there are PBR digital, audio and video resources available to streamline and cement the core material, the Core Study Guide and the Q&A book are at the center of the PBR system and they are essential towards helping you pass your exam.

PBR is great for residents looking to boost their In-Training Exams (ITE), for new pediatricians taking their American Board of Pediatrics (ABP) initial certification exam for the first time, for pediatricians who have failed the initial certification exam, and for busy pediatricians studying for their ABP Maintenance of Certification (MOC) exam.

PBR is much more than a collection of study resources. It’s a group experience and a system that provides you with ALL of the CONTENT, test-taking TECHNIQUE, GUIDANCE, and COMMUNITY SUPPORT that you need to pass your exam. You truly do NOT need any other board review book to pass your exam.

The national first-time pass rate is usually in the 75%–85% range for the (ABP) initial certification exam. By analyzing surveys, PBR’s Money Back First-Time Pass Guarantee requests, and emails, we estimate that PBR’s first-time pass rate for the initial certification exams is at least 97%!

For the ABP MOC recertification exam, the pass rate with PBR has been 100% for practicing general pediatricians (2011 – 2014, 2016), and very similar for pediatric subspecialists. In 2015, only ONE pediatrician failed on his first attempt at the MOC, and he admitted that he barely looked at the PBR resources.
WHY DOES THE PBR CERTIFICATION SYSTEM WORK?

EFFICIENCY THROUGH SYSTEMS AND INNOVATION

Most board review books and courses simply hand you a book and say, “good luck.” That’s how I studied for the USMLE exams, the pediatric board exam (twice) and the Internal Medicine board exam. I was completely isolated! After purchasing thousands of dollars of board materials, I was left to go through the books and video courses with no real guidance, no feedback from my peers, and absolutely no advice from the authors (besides a one-page preface).

Because of how excruciatingly painful that was, I’ve create a community of pediatricians for you to study with and a blueprint of what to study, how to study it and how to do so EFFICIENTLY!

In fact, ALL of the PBR resources are created with your time in mind.

* Will the resource be easy to use?
* Will it provide more value than existing resources AND provide that value in a more streamlined fashion?
* Can we make the resource digital for easy access via smart phones and tablets?
* Will the resource reinforce the core concepts laid out in the PBR and in the Q&A book instead of overwhelming with new concepts?
* Can we make the resource portable (e.g., audio or video?) so that it can be used at times when a physician, or a mom, or a dad, or a gym-enthusiast, would not normally be able to study?

PBR is a system unlike anything you have ever experience before in your medical career. The Core Study Guide is written in easy-to-understand language and provides you with hundreds of time-saving memory aids. The online systems allow for one-click access to hundreds of high-yield images across the web. The Q&A book has some of the highest yield and most board-relevant questions available.

You also have a ready-made study group of hundreds of pediatricians. It’s called the PBR Facebook CREW, and it will help you EFFICIENTLY blow past trouble spots in your studying. Plus, if you see an error in the book, or if you would like to submit an official request for content clarification, you can simply submit the info to me through PBR’s error submission portal (http://www.pediatricsboardreview.com/error).

Your submissions will likely be used to create a PDF response that is made available to ALL PBR members in order to enhance the PBR experience for the entire PBR community.

All of these efficiency-focused systems SAVE YOU OVER 100 HOURS OF TIME and give you flexibility in your life to enjoy your family, your friends, or to reinvest that time into repetition of the PBR material.

A critical component of ANY individualized board review plan is to go through the study material MULTIPLE times. PBR is concise, makes the learning manageable, and will allow you to feel confident on your test day because of well prepared you are for your exam.
WHAT ARE THE 7+ RESOURCES THAT YOU HAVE ACCESS TO?

The PBR Ultimate Bundle Pack and the ALL ACCESS PASS packages have become our two most popular memberships. If you have one of these memberships, please make sure you take advantage of all of these resources!

1. PBR’S COMMUNITY! This includes the MEMBERS-ONLY FACEBOOK CREW, Ashish Goyal, “Team PBR” and PBR’s summertime webinar content experts. JOIN THE CREW! Do not study in isolation! You have a community of pediatricians to support you. MANY members say this is one of the most valuable components of the PBR system. Studying for a board exam can be GRUELING, but having others to lean on for clarification, advice or just some moral support can make all the difference in your studying experience.

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Made it!!! Thank you Ashish, PBR staff and Facebook crew for your help and support with the Boards!!!

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Passed! Thank you Ashish and PBR crew!

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God is so GREAT!!! After 4 failures I HAVE PASSED. Ashish Goyal i used your material for the first time this year and it was God sent. Thank you so much for your test taking strategies, your videos, your mp3s and for restoring the faith that after failure there can be success. Im here for any referrals you need or if any one who has failed wants help please feel free to msg me. THANK YOU THANK YOU THANK YOU

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Passed. 2nd Go Around. Yes, I JUST NOW looked (on a Sunday morning at 105AM!). I had a 17 pt swing from first time failure to 2nd year pass. THANK YOU Ashish Goyal & PBR!!!
5. **ONLINE VERSION OF THE PBR Q&A BOOK**: Have a few minutes while at work? Open the scrolling PDF version of the Q&A book and go through one or two questions.

6. **PBR WEBSITE**: The website has a TREMENDOUS amount of valuable content. Each article was written to help address a need expressed by pediatricians. Read as many of the articles as you can! There is also a TOOLS section where you can find links to discounted pediatric board review question banks.

7. **PBR’s TEST-TAKING STRATEGIES & COACHING COURSES**: Physicians are not taught HOW to take tests. GOOD pediatricians with sound clinical reasoning WRONGLY believe that a board exam is a measure of one’s knowledge base, and thus a measure of one’s abilities as a clinician. That is completely false.

Exams require mastery of the English language, mastery of pacing, mastery of your emotional state during an exam, and an understanding of the deceptive tactics employed by question-writers to create seemingly possible yet blatantly WRONG answer choices.

The PBR TEST-TAKING STRATEGIES & COACHING COURSE (a paid resource for PBR members - [http://www.pediatricsboardreview.com/strategies](http://www.pediatricsboardreview.com/strategies)) offers insights into this “board game” so that you stop viewing question as miniature patients, and start viewing them as miniature riddles. Riddles with concrete rules and strategies to help you reach the correct answer quickly (even if you do not have the clinical knowledge to answer it!). Understanding the rules of the game will completely change your outlook on how to prepare for the exam and how to use board review questions for PRACTICE instead of content.

I HIGHLY recommend the PBR Test-Taking Strategies & Coaching Course for anyone who is “at risk.” This includes you if:

- You have failed this exam at least once
- You typically score below the national average on your board exam scores
- You have failed ANY USMLE Step exam
- You were classified as “at risk” during residency based on your in-training exam scores
- You are more than 1 year out of residency

The course helps you understand the techniques and skills associated with answering board-style questions correctly. We’ve helped pediatricians finally pass the boards after failing SIX times, so helping you should be easy.

To get just a taste of how you can increase your board scores immediately, and to learn a few of the rules to the “board game,” click here and read a PBR article I wrote titled, “3 Strategies To Skyrocket Your Score!” - [http://www.pediatricsboardreview.com/techniques](http://www.pediatricsboardreview.com/techniques)

Also, visit [http://www.pediatricsboardreview.com/strategies](http://www.pediatricsboardreview.com/strategies) and watch a FREE test-taking strategies session right now.
TEST-TAKING STRATEGY COURSE TESTIMONIALS

(FROM MEMBERS OF OUR ONLINE COURSE AND/OR OUR LIVE COURSE)

Ashish, I did it. I can't thank you enough for creating an amazing system to keep me on track with my studying. And the $2000 for the live weekend test taking course was well worth it. Doing the technique during the test kept me focused and allowed me to eliminate wrong answers. Thank you for all the great advice, sticking to the material, memorize, memorize, memorize then practice practice practice. After 4 failed attempts it was exhilarating to finally read the words, "we are PLEASED to announce you PASSED!" I will definitely recommend your program.

God Bless

- Dr. Yessenia Castro-Caballero, Board Certified Pediatrician

I found myself stuck many times, failing to pick the best answer even though the correct answer was always between my best 2 options. Everything was more clear when Ashish recommended to always pick the answer that addresses the "most important clinical issue" of the question. I started to use this technique this past week, and my test scores have improved remarkably. Thanks so much!! I am ready for the next webinar!!

- Dr. HL, Now A Board Certified Pediatrician

Appreciated that Ashish was able to break down the thought process and convey it to me... I was beginning to feel like I was "all over the place" when approaching questions. The techniques were articulated in a way which "clicked" with me.

Definitely helped to get a better understanding of the "board game" that Ashish mentions. I'm sure I've fallen prey to those traps in the past.

Also, knowing the types of questions and the algorithm to figuring out how to spend my time answering the questions-- never would have thought about the Hybrid approach to just reading the last line of the vignette for "this/these" questions.

Really didn't know that I shouldn't be spending time reading through the whole vignette... or doing the "top to bottom" approach!

Overall it was great and I really appreciate you taking the time and effort putting this together and making sure that we can succeed our first time around.

Helped immensely with reading/understanding the "English" of the questions - I actually would've gotten one example question wrong in the past had I not used the AaCNI mnemonic

- Dr. Darlene Melk, Board Certified Pediatrician

I had very little time to prepare for the boards... The core study guide helped me focus on topics that were high yield on the exam. In addition, the strategies taught by Ashish were very helpful and is what I believe helped me PASS. I would highly recommend the PBR for anyone needed to review in a short period of time. It is worth every penny!

- Dr. Darlene Melk, Board Certified Pediatrician
The time that you spend learning how to use test-taking strategies to increase your scores will be the HIGHEST yield time of your board prep. The time investment is about one day, but the skills you learn will be used on EVERY single question that you come across. What other pediatric knowledge-based content or chapter can guarantee you the same benefit? NOTHING!

Signup For Your FREE Strategy Session Now

http://www.pediatricsboardreview.com

FULL ONLINE Test-Taking Strategies Course
http://www.pediatricsboardreview.com/strategy

LIVE Test-Taking Strategies Course
http://www.pediatricsboardreview.com/live-tts
DID YOU KNOW THAT I FAILED THE BOARDS?

I took the ABP initial certification exam the year that I graduated from residency. I used multiple study guides to prepare. Because there was so much information in front of me (print and video), I only got through everything once.

I felt okay going into the exam. I thought, “I’ve been through the MCAT, three USMLE exams and an Internal Medicine board exam. I did fine in residency and I studied really hard for two months. I’m sure I’ll be fine.”

Coming out of that exam room on test-day, I felt nauseous. I realized that I might have just failed my first medical board exam, ever! I was upset with myself for getting so scattered with all of those different study materials, but I was also annoyed because I still couldn’t think of a single resource that I could use as a primary study guide the next time around.

I went home and made notes about how I would study differently if I had failed. What topics would I concentrate on? What topics just don’t seem to be “testable”? What information is a waste of time to study?

When the results came, I estimated that I failed by seven to nine questions. I made key strategy changes based on my previous experience. I studied for hundreds of hours while still working a full-time job. I focused on efficiency, solid mnemonics for memorization and I stopped trying to learn “all of pediatrics.”

You never feel “great” coming out of a board exam, but the following year I felt like I had a fighting chance. My score increased by 160 points, and I estimated a pass by about 37–39 questions! Pretty soon, I even received a letter from the ABP. The American Board of Pediatrics asked ME to write questions for the boards!!!

I was really just happy to pass. Failing the first time had cost me extra time, money and energy that I would have preferred to spend with my loved ones.

Prior to creating the Pediatrics Board Review experience, I was ashamed that I had failed. Now, I’ve taken a horrible experience and I’ve created something that is helping residents and pediatrician across the country. I’ve also realized that failing the boards did not mean that I was a bad pediatrician. Nor did passing by such a wide margin mean that I am a great pediatrician.

I'M JUST AN AVERAGE PERSON WHO DID EXTREMELY WELL ON THE EXAM... AND THEN TOOK MY NOTES AND SYSTEMS AND TURNED THEM INTO THE PBR. No matter who you are, I know that you can pass your exam, too. That’s why the PBR materials come with a 100% money-back first-time pass guarantee.

It’s the most EFFICIENT and well-integrated Certification SYSTEM to help you PASS the pediatric boards. So rest assured that by joining the PBR family, you’re already on the right track to success.

JUST FOLLOW THE EFFICIENCY BLUEPRINT!
THE PBR EFFICIENCY BLUEPRINT

The pediatric initial certification exam has one of the highest failure rates of any medical board exam. I URGE you to follow just a few of my simple but CRITICAL recommendations as you go through your board review experience. ESPECIALLY #1!

1. PLEASE STICK TO ONE PRIMARY STUDY GUIDE - the PBR! Spreading yourself too thin by reviewing multiple resources is the BIGGEST MISTAKE you can make. I've gone through thousands of emails, interviews and surveys. It's clear that this one, single recommendation that will increase your chances of board success more than anything else I can say.

This is a key similarity amongst pediatricians who failed the boards, but then went on to pass using the PBR system. So please do not spend your time going through other books, DVDs or expensive live board review courses. Go through the PBR books (Core Study Guide + Q&A Book) and the PBR companion products (videos, MP3s, digital picture atlas, webinars) exclusively.

2. Approach your PBR material by first simply SEEING all of the PBR content in the Core Study Guide and Q&A Book. Spend about 60–90 seconds per page to simply SEE everything that you will need to learn so that you have an idea about the type of knowledge you'll need to acquire in order to pass this exam. This should take you a full day. DO NOT spend time writing notes of any kind during this process. Do NOT treat the Q&A Book like other questions. This is CORE content.

During your first official read through, leave no stone unturned. Crosscheck anything that confuses you. Create mnemonics, notes and drawings in the margins so that you understand EVERYTHING. Make sure that you will NEVER have to go outside of the PBR for additional knowledge or clarifications again. If you get stuck on a concept, reach out to your peers on the PBR Facebook CREW (http://www.pediatricsboardreview.com/facebook)! If you think you've found an error, notify us through our special error submission link (http://www.pediatricsboardreview.com/error). This will help you maintain your PACE and promote EFFICIENCY! When crosschecking, ONLY go outside of PBR for possible errors or confusion. That's it! Do NOT go down the black hole of GOOGLE!

Your second time should be MUCH faster. Do NOT let your curiosity of non-PBR topics distract you. As you break up your studying time with questions, you WILL want to look up new topics and crosscheck facts between the PBR and PREP®. DO NOT DO IT! It's a guaranteed waste of precious time that could be spent on PBR, the HIGHEST YIELD resource that you will have at your disposal to pass the board exam.

Your third, fourth and fifth times through the PBR content should strictly focus on adding more information into your long-term memory through repetition, through the use of mnemonics, and through the use of MULTI-MODALITY studying. Use audio, video, webinars, study buddy sessions, flash cards, etc. Just use something to mix things up because it’s been proven to increase learning!

Again, you must resist that urge to look up extraneous information and you must focus on QUALITY study time. Ensure that your reading is focused on LEARNING and REMEMBERING the concepts. Do not simply read for the sake of reading, and do not study when you’re exhausted or irritable.

Your primary goal is to pass the exam. As long as you KNOW everything from the Core Study Guide + Q&A Book, you will have enough information in your brain to easily pass. However, if you try to learn "all of pediatrics" you will get overwhelmed and probably fail the exam. Map out at least 300 hours of studying for the initial certification exam (I studied 400+ hours.)
3. **Use PBR’s Q&A book as more CORE material.** Also use it to get familiar with very high-yield topics and questions. The format is short and to the point without too much extra information. The questions will help you understand what types of key findings you need to identify on your practice questions and on your exam. Please remember that **the Q&A book is considered CORE CONTENT.** You need to **KNOW IT COLD!** Do NOT treat the PBR questions like PREP® questions.

4. **Go through at least 1000 practice questions.** Don’t go through them all at once (much more on this in the schedule outlines below). As you go through the questions, **work on your timing.** If you can average about 1 minute and 15 seconds per question, you will be fine for the boards. Do not try to understand why every single incorrect answer is wrong. **Just focus on the correct answer, and if your answer is wrong, figure out WHY it’s wrong.** Skip explanations about all of the other answer choices.

   When evaluating WHY you answered a question wrong, figure out if it was because of a **CONTENT problem** or if it was due to a **TECHNIQUE problem.** If you’re not sure, then it’s a TECHNIQUE problem and you must get help – [http://www.pediatricsboardreview.com/strategies](http://www.pediatricsboardreview.com/strategies).

   **Did you answer a question incorrectly because of a CONTENT issue?** Meaning, you had a knowledge deficiency? If so, was the content in the PBR? If the answer is "yes" then you MUST know that information. If the answer is "no" then do NOT worry about it! Do NOT start looking at Nelson’s, Harriet Lane, Google, etc. **It’s a black hole that you must avoid** because it will only overwhelm you, and it will keep you from the two main goals of **knowing the PBR CONTENT COLD** and **PRACTICING tons of questions** to master your test-taking technique!

   Remember, the AAP writes PREP®, the ABP writes the boards. Going through **three to four years of PREP®** is great, but keep in mind that the resource is great for **CME.** Any single year of PREP® questions is **not** designed to be a stand-alone study guide for the ABP. The questions are **EXCELLENT** for practicing and mastering your test-taking technique, but your highest-yield information will come from the PBR study guides and systems. **If you need MORE questions, you can get discounted practice questions by visiting** [http://www.pediatricsboardreview.com/tools](http://www.pediatricsboardreview.com/tools).

   **Did you answer a question incorrectly because of a TECHNIQUE issue?** Did you add extra information and assumptions to the question or the answers that led you to the wrong answer? Did you spend too much time on a question even though it was clear that you didn’t have the knowledge to answer it? Did the question-writer trick you with a distractor? Did the question writer trick you with an English question instead of a clinical question? Did you get anxious or nervous under a timed mock exam? Are you still confused about why the answer you chose is wrong?

   Make notes about the kinds of issues you’re having and try to figure out solution and strategies to avoid similar pitfalls in the future. If you notice that TECHNIQUES-BASED PROBLEMS creeping in over and over again, you need to **seek out help through the PBR Test-Taking Strategies & Coaching course** – [http://www.pediatricsboardreview.com/strategies](http://www.pediatricsboardreview.com/strategies).

5. **EXTREMELY Important Test Day Tips:** **PLAN** to be successful. You will find two links below. The first breaks down the number of questions, time per block, etc. The second is a **list of excellent PBR articles.**

   [http://www.pediatricsboardreview.com/category/test-day-tips](http://www.pediatricsboardreview.com/category/test-day-tips)

I have a TON of guidance on how you can schedule your study time. Since PBR is of benefit to pediatricians at all different levels, I’ve tailored my recommendations accordingly below.

EVERYONE MUST recognize the difference between clinical practice and what the ABP would want you to do on the exam. The exam is filled with answer choices that sound like they would be great options in practice, but unless you know what “the book” says, you will have to simply roll the dice.

For anyone taking the Initial Certification exam, recognize that the pass rates are DRAMATICALLY LOWER than the USMLE Step Exams. In the 2008–2009 timeframe the pass rate for the USMLE exams was in the 90s while the pass rate for the ABP initial certification exam was in the 70s! Our members’ pass rate for first-time test takers of the ABP exams is estimated to be > 95%! So stay focused on your PBR!

For anyone taking the pediatric Maintenance of Certification (MOC) exam, you’re in luck! The national pass rate is in the mid-90s for first-time test takers, but the PBR has had multiple years of pass rates that have been 100% for practicing general pediatricians!

* ARE YOU A RESIDENT? Simply familiarizing yourself with everything in the PBR content before you graduate will dramatically increase your chances of passing the boards.

While on subspecialty rotations, READ and KNOW the associated PBR chapter. While on general inpatient or outpatient rotations, focus on the rest of the book, and take just 15 minutes per day to read the QUICK and high-yield topics about your patients. Pace yourself so that you can get through the material at least once per year. That’s it! If you do that, your in-training scores will skyrocket and you will DESTROY the boards.

* ARE YOU TAKING THE INITIAL EXAM FOR THE FIRST TIME? If you have never taken the pediatric boards before and you have never come close to failing a medical board exam (average or above average board scores), visit the following PBR article for a detailed study schedule:

http://www.pediatricsboardreview.com/schedule

* HAVE YOU EVER FAILED A MEDICAL BOARD EXAM (OR COME CLOSE)? If you were categorized as being “at risk” of failing based on your in-training exam scores, or if you have ever failed ANY medical board exam, or if you scored below the national average on your USMLE exams, visit the following PBR article for detailed instructions on how you can avoid failing your next attempt at the pediatric boards:

http://www.pediatricsboardreview.com/schedule-failed

* ARE YOU STUDYING FOR THE MOC? If you are taking the pediatric recertification exam then your goal should be to get through the PBR materials at least twice and to do at least 550 practice questions. For a video on how to get 200 FREE ABP questions scroll to the bottom of this article (for board-certified pediatricians only after logging into the ABP website):

http://www.pediatricsboardreview.com/abp
PBR MEMORY AIDS - USING MNEMONICS AND PEGS

MNEMONICS: Mnemonics are memory aids that assist in helping you recall something. They are used throughout this study guide to help you study in a more focused and EFFICIENT manner. Not all of them will work for you, but many will. At the time of the exam you WILL use many of the mnemonics in this book to help you answer questions. If you’re lucky, you might even get a smile on your face as you think about me acting like a bit of a fool in some of the videos from the PBR Online Video Course (http://www.pediatricsboardreview.com/videos).

PEGs: Memory “pegs” are typically used to help you remember a list of items. By having 20 pre-memorized pegs that represent the numbers 1–20, you can easily “peg” items to those numbers. For example, in the PEG system outlined in this guide, a CAT symbolizes the number 9 (since cats are said to have “nine lives”).

So, if you are trying to memorize a grocery list of 10 items and one of those items is a gallon of milk, then the 9th item could be tied to an image, or a story, about a cat. It could be as simple as visualizing a funky looking BLACK CAT that has white legs drinking from an orange bowl of MILK. The white legs and orange bowl are simply thrown in to add color and imagination. Other strategies would include the use of disproportional size, the use of action, or the use of sound. The crazier the image, or story, the better!

Please note that some of the pegs in this guide will be used in the high-yield mnemonics in this book. Please look through them a few times to see if you can get the hang of it. If you can, then you might even be able to start creating some of your OWN fun and interesting mnemonics. If you cannot, it’s okay. Move on since there are only a handful of mnemonics that use one of the pegs listed here. Plus, if I do use a peg, I usually try to remind you of the peg association in the book.

Do you have ideas on how to make the pegs or mnemonics in this book more useful?

Please consider sharing your thoughts in the private, members’ only community called the PBR Facebook CREW! You can also submit them directly to us for consideration through our errors and clarifications portal:
http://www.pediatricsboardreview.com/ERROR
### TWENTY PEGS

<table>
<thead>
<tr>
<th>#</th>
<th>USE THIS PEG</th>
<th>DESCRIPTIONS AND EXPLANATIONS OF PEGS</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>TREE TRUNK</td>
<td>Imagine the number 1 looking like a huge, brown tree trunk with limbs full of green foliage sitting at the top of a lush, green hilltop.</td>
</tr>
<tr>
<td>2</td>
<td>LIGHT SWITCH</td>
<td>A light switch has 2 positions (ON &amp; OFF). Use a switch OR a bulb for “2”.</td>
</tr>
<tr>
<td>3</td>
<td>STOOL</td>
<td>Imagine a dark, cherry wood stool with 3 legs.</td>
</tr>
<tr>
<td>4</td>
<td>CAR</td>
<td>Cars have FOUR doors and FOUR wheels.</td>
</tr>
<tr>
<td>5</td>
<td>GLOVE or HAND</td>
<td>A glove has 5 fingers. Consider making Michael Jackson’s shiny glove your peg for the number FIVE.</td>
</tr>
<tr>
<td>6</td>
<td>GUN</td>
<td>Another name for a gun is a 6-shooter (since guns used to only hold 6 bullets). GUNS also kill people and put them “6 feet under” the ground.</td>
</tr>
<tr>
<td>7</td>
<td>DICE or CARDS</td>
<td>Lucky number 7! Think Vegas, think craps, think gambling with dice or cards!</td>
</tr>
<tr>
<td>8</td>
<td>ICE SKATE</td>
<td>Ice skaters are known for performing a move called the figure 8. Eight also rhymes with skate.</td>
</tr>
<tr>
<td>9</td>
<td>CAT</td>
<td>Ever heard of the phrase, “Cats have nine lives”?</td>
</tr>
<tr>
<td>10</td>
<td>BOWLING BALL or BOWLING PINS</td>
<td>The goal of bowling is to knock down 10 pins.</td>
</tr>
<tr>
<td>11</td>
<td>AMERICAN FOOTBALL or GOAL POST</td>
<td>In American football, a field goal occurs when a football is kicked through two, white, vertical uprights (the goal post). A goal post looks like the number 11.</td>
</tr>
<tr>
<td>12</td>
<td>EGGS</td>
<td>Eggs usually come in a carton that contains a dozen (12) eggs.</td>
</tr>
<tr>
<td>13</td>
<td>HOCKEY MASK</td>
<td>Unlucky number 13 and the unlucky day/movie <em>Friday the 13</em>th. The main character in the movie <em>Friday the 13</em>th is Jason, a hockey-mask-wearing killer.</td>
</tr>
<tr>
<td>14</td>
<td>ROSE or CHOCOLATE HEART</td>
<td>February 14<em>th</em> is Valentine’s Day! So think of a long-stemmed, red ROSE or perhaps a big CHOCOLATE HEART.</td>
</tr>
<tr>
<td>15</td>
<td>PAYCHECK</td>
<td>You get to give the IRS a huge chunk of your PAYCHECK every single year on TAX-DAY! APRIL 15<em>th</em>. Welcome to healthcare. 😊</td>
</tr>
<tr>
<td>16</td>
<td>DRIVER’S LICENSE</td>
<td>Age at which you get a driver’s license. Other pegs to consider include CANDLES, CANDY, or a BIRTHDAY CAKE for “Sweet SIXTEEN.”</td>
</tr>
<tr>
<td>17</td>
<td>MAGAZINE</td>
<td>There is a teen magazine called “SEVENTEEN.”</td>
</tr>
<tr>
<td>18</td>
<td>VOTING BOOTH</td>
<td>Age when you become a legal adult in the U.S. and are allowed to VOTE.</td>
</tr>
<tr>
<td>19</td>
<td>KNIGHTING</td>
<td>Imagine a “KNIGHTING” ceremony (sounds like 19) or a KNIGHT.</td>
</tr>
<tr>
<td>20</td>
<td>CIGARETTES</td>
<td>A pack of CIGARETTES has 20 cigarettes in it.</td>
</tr>
</tbody>
</table>

There are TONS of mnemonics throughout PBR. Many will seem brilliant. Others may not work for you at all. If that happens, please CREATE YOUR OWN. It’s initially intimidating but gets much easier with time.

Click here to read PBR’s article on mnemonics: [http://pbrlinks.com/MNEMONICS](http://pbrlinks.com/MNEMONICS)
GETTING THE MOST OUT OF THE PBR FORMAT

* GRAY HIGHLIGHTING OR YELLOW HIGHLIGHTING: In the PBR hardcopy resources, gray highlighting is used over a word, phrase or chapter title to feature content that you MUST KNOW! These are very high-yield topics and are likely to be seen on the exam as an answer choice. PBR’s online books may have this content in red text or with yellow highlighting.

* DOUBLE TAKE: You will LOVE THIS! A “DOUBLE TAKE” alert accompanies topics that are in the book multiple times. Medicine ties together. Ordinarily, that results in flipping back and forth between chapters. Double Take is a PBR-specific system used to increase efficiency by reducing the flipping back and forth between related (or similar) topics. Most of these topics tend to be very high-yield.

* NAME ALERTS: Many disease names sound very similar (e.g., Condyloma Lata versus Condyloma Acuminata, or Shwachman-Diamond Syndrome versus Diamond-Blackfan Anemia). NAME ALERTS serve as reminders to look for these subtle differences.

* ABBREVIATIONS: Some disorders are discussed using their abbreviations while others are discussed with their proper names. When searching for a topic online you should do a search for both. If you encounter an unfamiliar acronym, try this tool: http://www.AcronymFinder.com

* MNEMONICS: If you’re much smarter than me, you don’t need these. If you have an average memory, like me, you MUST learn to take advantage of memory aids. They can dramatically increase your efficiency as you journey to retain thousands of bits of information. The PBR mnemonics may or may not work for you, but many of them should serve as excellent examples of the various types of memory aids you can begin to create. As a tip, always use as much action, color, exaggeration and “crazy” as possible.

* PEARLS: These are bits of information that help tie key concepts together for you. Members LOVE THEM! Here’s a PEARL for you. © There are only a finite number of ways that the ABP can test you on a disease process. Some PEARLS will show you how information could be presented on the exam.

PBR ERRORS

Are there errors in the PBR? Of course there are! But I also update the PBR every year with new recommendations and guidelines. I’m able to do this because of YOUR support. If you notice ANY error in the PBR materials (e.g., incorrect spelling, grammar, incomplete sentence, contradictory information, etc.), PLEASE visit the following link to submit the error:

http://www.pediatricsboardreview.com/ERROR

Please DO NOT email individual errors or clarification requests to me. It’s WAY too overwhelming. If you have MULTIPLE possible errors, send us a Word document. I LOVE the members who do that!!

Also, because it’s impossible for me to respond to every submission individually, I frequently release PBR CONTENT & CLARIFICATION GUIDES to active PBR members (FREE). Please note that THIS IS NOT A GUARANTEED SERVICE, but it is something I have done every single year. Your submissions drive this process and allow me to providing you with updated pediatric knowledge year after year.
PBR TOPIC CLARIFICATION OR CONFUSION

If you are struggling with a concept, get help from the members only PBR Facebook CREW! It’s EXTREMELY active (especially starting around June or July of every year). If you find a concept explained poorly and think the PBR needs a revision, feel free to use the error portal to bring it to my attention:

http://www.pediatricsboardreview.com/ERROR

PBR IMAGE LINKS

The image links in the PBR lead to PHENOMENAL images throughout the World Wide Web! BUT, these images are located on NON-PBR websites. Some websites go out of business. When this happens, we simply need to replace the image. Typically no more than 3% of the links within PBR are “bad.” We have an awesome system that allows us to change the link on our end but we need your help when a link “dies.” Simply submit any “bad link” through the portal below and we’ll take care of it!

http://www.pediatricsboardreview.com/BADLINK

PBR & AVSAR – THE NON-PROFIT CONNECTION

WHAT IS AVSAR? I started a non-profit organization, named AVSAR Inc., at the age of 27 to help support existing non-profit organizations that were already doing great work in slum areas.

After medical school I spent one year volunteering in the slums of Mumbai. The need for help was profound and conditions were shocking. Six-year-old children worked as child laborers, using their small, agile fingers to make beautifully detailed handiwork. Others spent their days looking for recyclables in garbage dumps.

I bonded with these children. I then created a non-profit organization under the U.S. IRS, called AVSAR. We recruited volunteers from around the world (college students, dentists, doctors, MBA students) to “help where the help was needed.” My personal success stories included the creation of an efficient Western-style clinic for child laborers and the establishment of an adolescent sex-education curriculum.

AVSAR helped thousands of people, but the core volunteer program was shut down in my last year of residency due to lack of funding and my 80-hour workweeks. Even so, the projects and systems created by volunteers live on and continue to help thousands more every year.

In order to re-launch AVSAR, we needed funding. Through Pediatrics Board Review (a private company) I donated over $50,000 to AVSAR before ever paying myself a penny.

It’s because of my passion for helping people that I created AVSAR, and then the PBR EXPERIENCE.

I hope that you’re able to use the many resources within the PBR Certification System and the PBR community to EFFICIENTLY study and pass your exam.

I very much look forward to being a part of your success. Now let’s get started!
PRODUCT REGISTRATION

As mentioned on the PBR site, this guarantee applies to anyone taking an ABP initial or recertification exam for the first time. “Money Back” requests may be made within 90 days of the score release date. The original PBR purchase must have been made at least 45 days prior to the exam. Submission of the product registration form is required for the money back pass guarantee and the form must be submitted within 90 days of your purchase and before you take the exam. For complete details, please visit:

http://www.pediatricsboardreview.com/guarantee

Visit the following link to register all of your product(s):

http://www.pediatricsboardreview.com/register

For hardcopy purchases from PBR, but through Lulu.com, Amazon.com, etc., please contact us through http://www.pediatricsboardreview.com/contact so that you can send us a copy of your receipt.
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SOCIAL ISSUES

PREMENSTRUAL SYNDROME & DYSMENORRHEA

AMENORRHEA

GROWTH CHART TRENDS

TALL STATURE

SHORT STATURE

GENETIC OR FAMILIAL SHORT STATURE

CONSTITUTIONAL GROWTH DELAY (& PUBERTAL DELAY)

GROWTH HORMONE DEFICIENCY

CONGENITAL GROWTH HORMONE DEFICIENCY

ACQUIRED GROWTH HORMONE DEFICIENCY

OTHER CONSIDERATIONS FOR SHORT STATURE

TALL STATURE

DOUBLE TAKE KLINEFELTER SYNDROME (AKA KLINEFELTER'S)

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HIGH CALORIC INTAKE

OBESITY

GROWTH CHART TRENDS

ENDOCRINE DISORDERS

CHROMOSOMAL ABNORMALITIES

INADEQUATE CALORIC INTAKE or MALABSORPTIVE DISORDERS

SPARING OF HEAD CIRCUMFERENCE

SMALL HEAD DISORDERS

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AMENORRHEA PEARLS

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SOCIAL ISSUES

AUTONOMY

BREAST EXAMS

RAPE/PTSD

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ALCOHOL AND TOBACCO

MARIJUANA

INHALANTS

CONDOMS

PLAN B

PAP SMEARS

ASCUS (ATYPICAL SQUAMOUS CELLS OF UNDETERMINED SIGNIFICANCE)
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CALCIUM AND VITAMIN D RELATED DISORDERS

SCROTAL MASS

EATING DISORDERS

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(DOUBLE TAKE) RICKETS

(DOUBLE TAKE) HYPERCALCEMIA

(DOUBLE TAKE) HYPOCALCEMIA

(DOUBLE TAKE) RICKETS

DRUG SCREENING

EXOGENOUS ANABOLIC STEROIDS

EATING DISORDERS

ANOREXIA

BULIMIA

REFEEDING SYNDROME

OVERWEIGHT VERSUS OBESE

SCROTAL MASS

TESTICULAR CANCER

HYDROCELE

SPERMATOCELE

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TESTICULAR AND PENILE ISSUES

TESTICULAR PAIN

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THYROID NODULES

HYPERTHYROIDISM

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NEONATAL THYROTOXICOSIS (AKA NEONATAL GRAVES DISEASE)

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(DOUBLE TAKE) HYPOCALCEMIA

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(DOUBLE TAKE) RICKETS OF PREMATURITY (AKA OSTEOPENIA OF PREMATURITY)

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BULLOUS IMPETIGO/STAPH SCALDED SKIN SYNDROME (SSSS)

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CELLULITIS

TINEA CORPORIS

TINEA VERSICOLOR

PITYRIASIS ROSEA

MOLLUSCUM CONTAGIOSUM

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PEDICULOSIS PUBIS (AKA PUBIC LICE or CRABS)

THE "ERYTHEMA" Rashes

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- Cognitive Reasoning Versus Concrete Thinking ..................................
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COGNITION..................................................................................................
# VITAMIN AND NUTRITIONAL DISORDERS

- **FAT-SOLUBLE VITAMINS**
- **VITAMIN A (AKA RETINOL)**
- **VITAMIN K DEFICIENCY (AKA PHYTONADIONE DEFICIENCY)**
- **VITAMIN E DEFICIENCY (AKA TOCOPHEROL DEFICIENCY)**
- **VITAMIN D (ERGOCALCIFEROL, CHOLECALCIFEROL) EXCESS**
- **VITAMIN D DEFICIENCY**
- **(DOUBLE TAKE) RICKETS**
- **(DOUBLE TAKE) RICKETS OF PREMATURITY (AKA OSTEOPENIA OF PREMATURITY)**
- **(DOUBLE TAKE) LIVER DYSFUNCTION**

- **WATER-SOLUBLE NUTRIENTS**
- **THIAMINE (B1) DEFICIENCY**
- **RIBOFLAVIN (B2) DEFICIENCY**
- **NIACIN (B3) DEFICIENCY**
- **PYRIDOXINE (B6) DEFICIENCY**
- **(DOUBLE TAKE) FOLATE (B9) DEFICIENCY**
- **(DOUBLE TAKE) B12 DEFICIENCY (AKA CYANOCOBALAMIN DEFICIENCY)**
- **VITAMIN C DEFICIENCY AND EXCESS**
- **(DOUBLE TAKE) ZINC DEFICIENCY**
- **(DOUBLE TAKE) ACRODERMATITIS ENTEROPATHICA**
- **(DOUBLE TAKE) BIOTIN/BIOTINIDASE DEFICIENCY**
- **COPPER DEFICIENCY**
- **(DOUBLE TAKE) STRICT VEGETARIANS AND VEGANS**

- **NUTRITIONAL DEFICIENCIES**
- **ENERGY REQUIREMENTS IN CHILDREN**
- **KWASHIORCOR**
- **MARASMUS**
- **(DOUBLE TAKE) ESSENTIAL FATTY ACID DEFICIENCIES**

# GASTROENTEROLOGY

- **LIVER DISEASE**
- **CONGENITAL HEPATIC FIBROSIS**
- **HEPATOMEGALY**
- **GALLBLADDER HYDROPS**
- **HEPATOBLASTOMA**
- **PRIMARY SCLEROSING CHOLANGITIS (PSC)**
### Causes of Abdominal Discomfort & Pain

- Classic functional abdominal pain of childhood
- Constipation
- Fecal overflow encopresis
- *Helicobacter pylori*
- NSAID-induced dyspepsia, ulcers, and erosive gastritis
- Erosive gastritis aka erosive gastropathy
- Non-erosive gastritis
- Non-ulcer dyspepsia
- Zollinger-Ellison syndrome
- Infantile gastroesophageal reflux (GERD)
- (Double take) irritable bowel syndrome (IBS)
- Inflammatory bowel disease (IBD) – Crohn’s and ulcerative colitis
- Appendicitis
- Pancreatitis
- Intussusception
- (Double take) giardia
- Abdominal pain pearl

### Causes of Diarrhea

- Chronic nonspecific diarrhea
- (Double take) lactose intolerance (aka lactase deficiency)
- Bacterial overgrowth
- Celiac disease (aka celiac sprue)
- Infectious diarrheal illnesses

### Causes of Constipation

- Functional constipation
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CONTACT DERMATITIS, A DIAPER RASH

Contact dermatitis is a diaper rash that **spares** the inguinal folds. Treat with more frequent diaper changes and a topical barrier, such as zinc oxide.

**(DOUBLE TAKE) CUTANEOUS CANDIDIASIS, A DIAPER DERMATITIS**

Cutaneous candidiasis, a diaper dermatitis, can occur secondary to a contact dermatitis or recent antibiotic use. It presents as a beefy red rash with papular satellite lesions. This rash goes **into the inguinal folds**. Use a KOH prep to confirm diagnosis, and treat with a topical antifungal, such as nystatin or clotrimazole.

**IMAGE** (includes satellite lesions): [http://pbrlinks.com/CUTASCAN1](http://pbrlinks.com/CUTASCAN1)

**(DOUBLE TAKE) ATOPIC DERMATITIS (ECZEMA)**

In babies, atopic dermatitis (eczema) **SPARES** the diaper folds/flexural surfaces (but not in older kids). It is **PRURITIC** and **LICHENIFIED**. Food allergies CAN exacerbate eczema. Breastfeeding x 6 months or using hypoallergenic formula may delay the onset of eczema but does not reduce its incidence. The contribution of early food ingestion to the development of atopic dermatitis is controversial. Eggs, fish, milk, peanut, soy, wheat and strawberries are the foods thought to possibly contribute, but delaying their introduction doesn’t help. Positive skin and RAST tests for foods are not predictive, either. Treatment options include emollients and topical steroids. Avoid use of steroids in areas where the skin is thin. Use the lowest potency steroids that work. Watch for superinfection if the eczema is not improving with appropriate therapy.

**IMAGE**: [http://pbrlinks.com/ECZEMA1](http://pbrlinks.com/ECZEMA1)

**NUMMULAR ECZEMA**

Nummular eczema refers to coin-shaped eczematous lesions usually on the **extensor** surfaces of extremities. Lesions are **uniform**, without any central clearing. Lesions may ooze, crust, or have a scaling pattern. Treat with steroids.

**IMAGE**: [http://pbrlinks.com/NUMMULAR1](http://pbrlinks.com/NUMMULAR1)

**MNEMONIC**: Imagine that you are standing with your arms in abduction, and you are balancing silver COINS that are **UNIFORM in color** (without central clearing) on the BACK of both of your arms (**extensor surface**).

**(DOUBLE TAKE) ECZEMA HERPETICUM**

Eczema herpeticum is a potentially life-threatening disseminated herpes (HSV) infection occurring at sites of skin damage, including sites of eczema. Look for HSV Vesicles + Crusted Lesions. Even if a description is not given of a vesicular rash, have a high index of suspicion for a rash **“not improving with steroids and/or antibiotics.”** Diagnose with a viral culture for HSV, but do not delay treatment. A Tzanck smear can support the diagnosis. Treat by **STOPPING** topical steroids and/or immunosuppressants and starting **Acyclovir**.

**IMAGE**: [http://pbrlinks.com/ECZEMAPERPE1](http://pbrlinks.com/ECZEMAPERPE1)
**IMAGE**: [http://pbrlinks.com/ECZEMAPERPE2](http://pbrlinks.com/ECZEMAPERPE2)
**IMAGE**: [http://pbrlinks.com/ECZEMAPERPE3](http://pbrlinks.com/ECZEMAPERPE3)
SEBORRHEIC DERMATITIS (AKA CRADLE CAP)

Seborrheic dermatitis (AKA cradle cap), is a NONpruritic, inflammatory, flaky rash with white to yellow scales that usually forms in oily areas (e.g., scalp). It is often seen in the first two months of life. After that, it’s not very common until adolescence. You may treat with topical antifungal agents or mild steroids. The skin may be left with hypopigmented areas, especially in the folds. If asked to name the hypopigmented areas, choose PITYRIASIS ALBA.

IMAGE: http://pbrlinks.com/SEBORRHEIC1

PSORIASIS

Psoriasis is a very well-defined, red, flaky rash covered with silver-white patches. It can also be described as thick and scaly (like seborrheic dermatitis). It sometimes results in punctate bleeding when scales are removed (this is called the Auspitz sign). It can occasionally be limited to the diaper area, in which case it goes into the inguinal folds.

GUTTATE PSORIASIS

The “guttate” in guttate psoriasis means “drop like” and describes the shape of these discrete psoriatic lesions. This can be preceded by a Group A Strep (pyogenes) infection.

IMAGE: http://pbrlinks.com/GUTTATE1

(DOUBLE TAKE) LANGERHANS CELL HISTIOCYTOSIS (LCH) = HISTIOCYTOSIS X

Langerhans Cell Histiocytosis (LCH), AKA Histiocytosis X, is a PAPULAR rash that is sometimes associated with petechiae. The rash is located in the folds (inguinal folds, supra-pubic folds, perianal area). It can resemble eczema, but the petechiae or PAPULES should guide you towards this diagnosis. LCH is a type of cancer. You may be shown a lytic bone lesion (possibly of the skull). Diagnose by skin biopsy. LCH can also be associated with DIABETES INSIPIDUS. Treat by removing the lesion and giving steroids, ± chemotherapy.

PEARLS: Do not confuse this with Wiskott-Aldrich (WiXot-Aldrich, X-linked, low IgM, high IgA, TIE = Thrombocytopenia, small platelets, Infections, and Eczema). Also, if they describe an eczema or seborrheic dermatitis type of rash in a patient with high urine output, LCH is your diagnosis.

IMAGE: http://pbrlinks.com/LANGERHANSCELL1
IMAGE: http://pbrlinks.com/LANGERHANSCELL2
IMAGE: http://pbrlinks.com/LANGERHANSCELL3

RASHES THAT SPARE THE INGUINAL FOLDS

Eczema and Contact Dermatitis should be high on your differential for rashes that spare the inguinal folds.

PRURITIC RASHES

Consider atopic dermatitis/eczema, HSV, scabies, tinea, or Varicella (VZV) in your differential of any pruritic rashes.

KERATOSIS PILARIS

Keratosis pilaris forms due to an overgrowth of the horny skin. It can look similar to eczema and may have a mild erythematous background. No treatment is needed.

IMAGE: http://pbrlinks.com/KERATOSIS1
IMAGE: http://pbrlinks.com/KERATOSIS2
IMAGE: http://pbrlinks.com/KERATOSIS3
**LICHEN SCLEROSUS**

Lichen sclerosus is a chronic, inflammatory, dry, white, and somewhat scaly rash that is usually found in the genital area. There is no thickening or sclerosis. There are usually no symptoms, although a small percentage of patients have pruritis. Look for a picture of labia with a rash.

IMAGE: [http://pbrlinks.com/LICHENSCLEROSUS1](http://pbrlinks.com/LICHENSCLEROSUS1)

**LICHEN STRIATUS**

Lichen striatus is a rash that looks like eczema, but is linear or papular and can follow the Lines of Blaschko.

IMAGE: [http://pbrlinks.com/LICHENSTRIATUS1](http://pbrlinks.com/LICHENSTRIATUS1)
IMAGE: [http://pbrlinks.com/LICHENSTRIATUS2](http://pbrlinks.com/LICHENSTRIATUS2)
IMAGE: [http://pbrlinks.com/LICHENSTRIATUS3](http://pbrlinks.com/LICHENSTRIATUS3)
IMAGE: [http://pbrlinks.com/LICHENSTRIATUS4](http://pbrlinks.com/LICHENSTRIATUS4)

**ALLERGIC CONTACT DERMATITIS, A TYPE IV HYPERSENSITIVITY SKIN RASH**

Allergic contact dermatitis is a Type IV hypersensitivity skin rash that requires a prior exposure, and tends to be pruritic. See if the location of the rash is in an area where a nickel-containing belt buckle, earring, necklace, or other jewelry could have been. A rash may present even after years of wearing the irritant. The rash from nickel exposure is more erythematous and can become lichenified. The classic example of Type IV reactions is the rash of poison ivy, or other “leaves of 3” (including poison oak and poison sumac). Regarding a contact dermatitis from these plants, it will not spread once the affected area is washed with soap and water. The fluid from within the vesicles cannot spread the rash. This reaction is a Type IV Cell Mediated Hypersensitivity Reaction, and is called a Rhus reaction (from the old genus name of poison ivy, Rhus radicans). The rash is vesicular and may be in a linear configuration (where the leaves rubbed across the skin).

* **PEARL**: First exposure may take 1 week to develop the rash as helper T cells proliferate and “remember” the agent. After that, the rash may develop within hours of exposure. “No wonder I had to go through the 2-step PPD before starting as an attending!”

* **PEARL**: REMINDERS: A PPD and the skin testing of Candida, Mumps, and Tetanus are all Type IV reactions.

* **MNEMONICS:**
  - “LEAVES OF THREE, LET THEM BE!”
  - Type IV reaction: I + V = the Roman numeral IV = 4, and the 4th letter in the alphabet is D = DELAYED. I + V also should you remind you of poison IVy.

* **IMAGE**: [http://pbrlinks.com/ALLERGICCONTACT1](http://pbrlinks.com/ALLERGICCONTACT1)
* **IMAGE**: [http://pbrlinks.com/ALLERGICCONTACT2](http://pbrlinks.com/ALLERGICCONTACT2)

**(DOUBLE TAKE) BIOTIN/BIOTINIDASE DEFICIENCY**

Biotin and biotinidase deficiencies may present with a RASH + ALOPECIA + NEUROLOGIC SIGNS (ataxia, coma, etc.). Patients may also have lactic acidosis. Treat with biotin.

**MNEMONIC**: Imagine the TIN MAN from The Wizard of Oz walking with an ATAXIC gait as he SCRATCHES his arm. Notice that he has NO HAIR!
PAPULAR URTICARIA

Papular urticaria is a rash due to hypersensitivities to the insect bites of bedbugs, fleas, and mosquitoes that results in edema, erythema, and pruritis. It presents in RECURRENT CROPS. It tends to come and go, wax and wane every few weeks or months. Some lesions may be umbilicated. Treat by removing the offending agent (fleas, lice, bedbugs, or outside insects).

PEARL: You may not be given the history of a specific insect or exposure.

MNEMONIC, "CROPular Urticaria." Where do you find insects? In CROPS, of course!

IMAGE: http://pbrlinks.com/PAPULAR1

VITILIGO

Vitiligo results in depigmented macules. Look for a “salt and pepper” type of pattern of re-pigmentation. It is often associated with HALO NEVI.

IMAGE: http://pbrlinks.com/VITILIGO1

(NAME ALERT) ICHTHYOSIS VULGARIS

Ichthyosis vulgaris is a rash that resembles FISH SCALES. It is often seen in atopic dermatitis patients. You may attempt treatment with ammonium lactate or alpha-hydroxyacid-containing agents. The name alert is for lamellar ichthyosis and harlequin ichthyosis.

IMAGE: http://pbrlinks.com/ICHTHYOSIS1

(NAME ALERT) LAMELLAR ICHTHYOSIS (AKA COLLODION BABY)

Lamellar ichthyosis (AKA collodion baby) is noted at the time of birth in newborns. A thin, transparent film is noted on the body. Eyelashes are missing. Eyelids seem everted (ectropion). The name alert is for harlequin ichthyosis and ichthyosis vulgaris.

IMAGE: http://pbrlinks.com/LAMELLAR1
IMAGE: http://pbrlinks.com/LAMELLAR2
IMAGE: http://pbrlinks.com/LAMELLAR3

(NAME ALERT) HARLEQUIN ICHTHYOSIS

Harlequin ichthyosis presents with a newborn that looks much more abnormal than lamellar ichthyosis. The covering is hard (“armor-like”) and horny. Movement is restricted. Prognosis is poor comparatively. The name alert is for lamellar ichthyosis and ichthyosis vulgaris.

IMAGE: http://pbrlinks.com/HARLEQUIN1

PYODERMA GANGRENO Sum

The etiology of pyoderma gangrenosum is unknown, but it is known to be associated with other systemic diseases such as Crohn’s. Lesions are described as deep, bluish, necrotic, and boggy-looking ulcers.
ECTHYMA GANGRENOsum

Ecthyma gangrenosum is usually a sign of a Pseudomonas infection and possibly sepsis in an immunocompromised patient, especially leukemia! Look for a neutropenic patient with black, necrotic, ulcerative lesions with surrounding erythema and edema. These lesions are often located in the groin/diaper area.

IMAGE: http://pbrlinks.com/ECTHYMA1

GRANULOMA ANNULARE

Granuloma annulare is a chronic skin condition with an annular (circular) lesion. It may be slightly pruritic. There are no scales.

PEARL: This looks kind of like ringworm, but there is NO SCALING! Keep this in mind any time you see Tinea as an answer choice.

IMAGE: http://pbrlinks.com/GRANULOMA1

PITTED KERATOLYSIS

Pitted keratolysis is a condition in which there is pitted skin in areas of pressure. There will probably be a history of strong foot odor.

IMAGE: http://pbrlinks.com/PKERATOLYSIS1

DERMATOMYOSITIS

Dermatomyositis results in a heliotropic, violaceous rash in malar area. Gottron’s Papules (erythematous, shiny, pruritic papules over the metacarpals) may be present. Patients will have proximal weakness and possible telangiectasias near the nail folds. Diagnose with a MUSCLE BIOPSY. The CK LEVEL WILL BE HIGH. These patients can also get calcinosis cutis.

PEARL/REMINDER: Duchenne Muscular Dystrophy also has elevated CK levels.

IMAGE: http://pbrlinks.com/DERMATOMYOSITIS1
IMAGE: http://pbrlinks.com/DERMATOMYOSITIS2
IMAGE: (calcinosis cutis) http://pbrlinks.com/DERMATOMYOSITIS3

STEVENs-JOHnson Syndrome (SJ s) and TOXiC EPIdermal NECROLYsis (TEN)

The terminology for Stevens-Johnson Syndrome (SJS) and Toxic Epidermal Necrolysis (TEN) varies. Many now view these disorders on a spectrum. SJS and TEN are the same, but TEN is the diagnosis if > 30% of body surface area is involved. Look for bullae or erosions followed by hemorrhagic crusting. There may be severe blistering with the Nikolsky sign when pressure is applied. It is a full thickness rash similar to a burn. Skin lesions may look like a BULLSEYE or TARGET lesion, with the center described as DARK, DUSKY, or VIOLACEOUS. The target CAN be a blister or vesicle. At least two mucous membranes must be involved (most commonly the lips and eyes). If the eyes are involved, this is an ocular emergency!

MEDICATION ASSOCIATIONS: Aromatic seizure medications, penicillins, NSADS, and sulfa drugs. The rash usually occurs within 2 months of starting the medication.

ERYTHEMA MULTIFORME

Erythema multiforme is also a confusing topic. It may now also be considered on the SJS/TEN spectrum, especially if mucous membranes are involved. Distinguishing erythema multiforme minor from erythema multiforme major is also confusing, so the terminology is not likely to be tested.
Both minor and major have tiny target lesions (probably dusky in the middle). Sometimes you have to use your imagination to envision the target. It may just look a little darker on the inside of the lesion than the outside. Lesions usually start on the hand and/or feet and THEN progress to the trunk. There will be 0–1 mucous membranes involved (if more, it will likely be called SJS or TEN). IF you are tested on the terminology, pick minor if the patient is not toxic. Possible etiologies include HSV, Mycoplasma, and Syphilis.

**IMAGE:** http://pbrlinks.com/ERYTHEMULTI1
**IMAGE:** http://pbrlinks.com/ERYTHEMULTI2
**IMAGE:** http://pbrlinks.com/ERYTHEMULTI3
**IMAGE:** http://pbrlinks.com/ERYTHEMULTI4

**Mnemonic:** Imagine Stevens and Johnson as two very arrogant hunters. They went TARGET shooting one day in an area that said, “Beware of BULLS.” They learned their lesson the hard way when a BULL came out of nowhere and did some target practice of his own.

**(DOUBLE TAKE) NEONATAL LUPUS**

The baby does NOT have lupus. Neonatal lupus occurs in children of mothers with SLE due to fetal exposure to maternal SLE-related antibodies. It is rare. Findings may include increased LFTs, petechiae, rash, scaling, thrombocytopenia, third degree AV heart block with bradycardia, or hydrops fetalis (fluid accumulation in two or more fetal compartments usually due to heart failure). Diagnose by sending Anti-Ro or anti-La antibodies (AKA anti-SS-A or SS-B).

**IMAGE:** http://pbrlinks.com/NEONATALLUPUS1

**Rashes with central clearing (pearl)**

Hives/urticaria, Rheumatic Fever (“jonEs” = E. Marginatum = MARGINs progress to give central clearing), Tinea (raised border/ringworm)

**Rashes with central darkening/target lesions (pearl)**

SJS/TEN (“target shooting, bull”), Brown recluse spider bite (see Emergency Medicine), Lyme Disease/Borrelia/Erythema Migrans

**Urticaria/hives**

Urticaria (hives) is a pruritic rash due to an allergic exposure. Pink center with a more erythematous border. Giving histamine blockers (both H1 & H2) may be helpful. Foods are the most likely cause of chronic urticaria.

**IMAGE:** http://pbrlinks.com/URTICARIA1
**IMAGE:** http://pbrlinks.com/URTICARIA2

**Scleroderma**

Scleroderma patients have thickened skin with an ivory or waxy, appearance. Affects girls more frequently. The limited form is more common than the systemic form in children (located at one site only). Lesions may initially be painful and tender. Skin is often hard and may have a linear appearance. Treat with topical lubricants for limited cases. May have to use steroids or other immunosuppressives in more severe cases.

**IMAGE:** http://pbrlinks.com/SCLERODERMA1
**IMAGE:** http://pbrlinks.com/SCLERODERMA2
DERMOID CYSTS (AKA EPIDERMOID CYSTS)

Dermoid cysts (AKA epidermoid cysts) are saclike growths present at birth. They are like teratomas in that they can contain hair and teeth. They are often associated with tufts or sinuses. They grow slowly and can get infected, so most of them should be REMOVED. Especially those in sensitive areas, including the face or nasal area.

IMAGE: http://pbrlinks.com/EPIDERMOIDCYSTS1
IMAGE: http://pbrlinks.com/EPIDERMOIDCYSTS2
IMAGE: http://pbrlinks.com/EPIDERMOIDCYSTS3

COMEDONAL ACNE

Think of comedonal acne as an OBSTRUCTIVE process that creates white heads and black heads. Treat with a RETINOID keratinolytic agent. You may also prescribe benzoyl peroxide.

PEARL: An answer with topical retinoic acid + benzoyl peroxide twice daily is probably WRONG. Benzoyl peroxide inactivates traditional retinoids (tretinoin), so one should be used at night, and the other in the morning (or at least with some time in between). Newer retinoids, like adapalene and tazarotene, are more stable and may be used at the same time.

INFLAMMATORY ACNE

Inflammatory acne is differentiated from comedonal acne by its RED BASE.

* Minor cases: If the acne is localized with small lesions, use a TOPICAL antimicrobial agent, such as Benzoyl peroxide, Clindamycin or Erythromycin. Retinoic acid topicals are also included in most regimens.

* Severe cases: If large, nodular, or in multiple areas, use ORAL antibiotics. First line is Tetracycline, Doxycycline, or Erythromycin. Minocycline is a second line agent. These antibiotics provide a bactericidal and an anti-inflammatory effect. You may also try oral contraceptive pills (OCPs) in females for their anti-androgen effects. If all else fails, use ISOTRETINOIN.

ISOTRETINOIN

Isotretinoin is a miracle drug that fights sebum production and bacteria, while also decreasing inflammation and comedonal acne. But it is TERATOGENIC, so obtain TWO negative pregnancy tests before starting the medications. Also, patients must use TWO forms of birth control starting one month before starting the medication and until one month after. In addition, they should have monthly pregnancy tests.

PEARL: Acne can begin as early as 8 years of age. If the boards present a 7-year-old child with what looks like acne, CONSIDER ANOTHER DIAGNOSIS! Consider exogenous steroid use, precocious puberty, and TUBEROUS SCLEROSIS.

(DOUBLE TAKE) APHTHOUS ULCERS

Aphthous ulcers are painful lesions found within the oral mucosa (buccal mucosa, lips, and tongue) with a grayish-white base and a rim of erythema. These can occur in isolation or in association with Behcet's or Shwachman-Diamond syndrome.

IMAGE: http://pbrlinks.com/APHTHOUSULCERS1
IMAGE: http://pbrlinks.com/APHTHOUSULCERS2
TEETH ISSUES

TOOTH TIMELINE
Tooth appearance follows a timeline. All anterior teeth are present (eight of them) by about 12 months. Primary teeth are present by about age 2. Some children do not have teeth by 1 year of age, so reassurance is okay. For ABP questions, they will be more focused on abnormal-looking teeth.

PEG TEETH
Peg teeth refers to teeth that are smaller than usual. Sometimes they are tapered and look like fangs. This usually affects the lateral incisors and is associated with INCONTINENTIA PIGMENTI and HYPOHIDROTIC ECTODERMAL DYSPLASIA.

IMAGE: http://pbrlinks.com/PEGTEETH1
IMAGE: http://pbrlinks.com/PEGTEETH2

HUTCHINSON TEETH
Hutchinson teeth are found in CONGENITAL SYPHILIS. These children have teeth that are smaller and more widely spaced. They also have notches on the biting surfaces.

IMAGE: http://pbrlinks.com/HUTCHTEETH1
IMAGE: http://pbrlinks.com/HUTCHTEETH2

TETRACYCLINE TEETH STAINING
If tetracycline is used at a young age, teeth can end up having yellow, brown, or blue band-like stains. Avoid tetracycline until patients are at least 8 years of age.

IMAGE: http://pbrlinks.com/TETRATEETH1

FLUOROSIS
Fluorosis is the mottled discoloration of teeth due to excess fluorine use during tooth development (up to age 4).

IMAGE: http://pbrlinks.com/FLUOROSIS1

VASCULAR & PIGMENTED LESIONS

PEARL/MNEMONIC: HEMANGIOMAS are different from VASCULAR MALFORMATIONS (e.g., Port Wine Stains/capillary malformations). VASCULAR MALFORMATIONS tend to have much more associated morbidity. You might say that VMs are Very Morbid in comparison.

IMAGE: (slideshow on birthmarks) http://pbrlinks.com/VM1

HEMANGIOMAS
Hemangiomas are an abnormal build-up of blood vessels. They eventually self-involute but are dangerous during PROLIFERATION PHASE. They are otherwise benign. They usually look red, but can appear blue if deep (CAVERNOUS HEMANGIOMAS). Proliferation is greatest during the first 6 months, and lesions are largest around 1 year of age. Lesions start to involute around 2 years of age and disappear by 5–10 years of age. If in a benign area, they can be left alone. If in a more sensitive area (near the eyes, ears, nose, throat, or spine), they may require medical treatment with propranolol (first line drug). Second line therapies include systemic steroids, pulsed dye laser therapy and surgery.
COMPLICATIONS: If located in the beard area, look for airway issues. If near the eye, it's okay as long as there is no problem with VISION. Those near the ears, nose, and lips can be troublesome if they ulcerate. If in the lumbosacral area, there is concern for spinal dysraphism (incomplete fusion of a raphe, especially the neural folds/tube). High output congestive heart failure (CHF) can occur due to large, or multiple hemangiomas.

IMAGE: http://pbrlinks.com/HEMANGIOMAS1
IMAGE: http://pbrlinks.com/HEMANGIOMAS2

PHACES SYNDROME
A diagnosis of PHACES syndrome requires a large hemangioma in the face/neck area PLUS one of the following defects:

* Posterior fossa malformation (DANDY WALKER)
* Hemangioma. Often in the distribution of the Facial Nerve. Look for a large segmental hemangioma on the FACE. Segmental refers to what looks like a nerve distribution (segmented by normal skin in between). This can be associated with STROKES.
* Arterial cerebrovascular anomaly
* Cardiac anomalies: Especially COARCTATION OF THE AORTA
* Eye anomalies: MICROPHTHALMIA, STRABISMUS
* Sternal defect

IMAGE: http://pbrlinks.com/PHACES1

(DOUBLE TAKE) KASABACH-MERRITT SYNDROME
In Kasabach-Merritt syndrome, there are large, congenital vascular tumors. They are not true hemangiomas but can cause a severe CONSUMPTIVE COAGULOPATHY (in the form of thrombocytopenia and the consumption of coagulation factors) and death. It is most common in infants.

IMAGE: http://pbrlinks.com/KASABACH1
IMAGE: http://pbrlinks.com/KASABACH2

PEARL: Look at the above images closely. Make sure you look closely at images so that you do not get this vascular tumor confused with hemihypertrophy.

MNEMONIC:

• >---< is used by many of us when recording CBC results.

ASSABACH = low platelets, risk of bleeding and death

NEVUS SIMPLEX
A nevus simplex is a Salmon colored lesion often called a Stork bite or Salmon patch. They blanch on pressure and tend to be on the midline or symmetrical (e.g. on both eyelids). These fade with time and are benign. Do not get this term confused with Nevus FLAMMEUS (AKA PORT WINE STAIN).

PEARL: These BLANCH with pressure.

IMAGE: http://pbrlinks.com/NevusSimplex1
IMAGE: http://pbrlinks.com/NevusSimplex2
PORT WINE STAINS (PWS) (AKA NEVUS FLAMMEUS)

Port Wine Stains (PWS), AKA nevus flammeus, are CAPILLARY malformations. They tend to be unilateral and segmental, not crossing the midline. They start as pink/flat lesions that become dark red-purple. They then progress to being thick/raised in adulthood. These PWSs are Present at birth and are PERMANENT. They are benign if noted in isolation. If noted on the face, they can be associated with glaucoma (increased intraocular pressure that can present as a red eye).

IMAGE: http://pbrlinks.com/PORTWINE1
IMAGE: http://pbrlinks.com/PORTWINE2

PEARL: They grow in proportion to the child and tend to occur in a segmental distribution respecting the midline.

MNEMONIC: Glaucoma is a concern if a PWS is noted in the facial area. Is that why Mikhail Gorbachev wore glasses? Because he has that big FLAME on his head?

STURGE-WEBER SYNDROME (SWS)

The Sturge-Weber Syndrome (SWS) includes the following findings: Port Wine Stain (PWS or NEVUS FLAMMEUS) + EYE/TRIGEMINAL NERVE DISTRIBUTION + INTRACRANIAL VASCULAR MALFORMATION (look for with MRI) +/- glaucoma +/- Seizures +/- cognitive deficits.

MNEMONICS: "pWS = sWS"… Ever heard of a basketball player named Chris WEBBER? Think WEBBER = Sports = ESPN (I know it’s a stretch).
* EYE - glaucoma
* SWS
* PWS
* NEUROLOGIC issues: Developmental delay, Seizures

CAPILLARY MALFORMATION ASSOCIATIONS

(DOUBLE TAKE) KLIPPEL-TRENAUNAY SYNDROME

Klippel-Trenaunay syndrome is associated with AV fistulae, causing skeletal or limb OVERGROWTH (hemihypertrophy). Patients with Klippel-Trenaunay have Port Wine Stains and overgrowth of tissue, bones, and soft tissue. Look for unilateral limb overgrowth and CHF.

* IMAGE: http://pbrlinks.com/KLIPPELTRENAUNAY1

* (DOUBLE TAKE) PEARL: Hemihypertrophy images on the pediatric exam should very quickly clue you in to a few disorders. Highest on your differential should be Beckwith-Wiedemann Syndrome, then Klippel-Trenaunay, then Russell-Silver Syndrome, and then possibly Proteus Syndrome.

* MNEMONIC: From now on, say CRIPPLE-T. Think of these patients as having a CRIPPLING disorder in which they have one HUGE leg that prevents them from getting around.

* NAME ALERT: KLIPPEL-FEIL SYNDROME. This is a completely different disorder. Look for a Torticollis-like photograph (due to fused cervical vertebrae).

IMAGE: http://pbrlinks.com/KLIPPELTRENAUNAY2
**Klippel-Feil Syndrome**

Klippel-Feil Syndrome results in a torticollis-like appearance and results from fused cervical vertebrae. Patients will likely have a short, webbed neck, limited range of motion at the neck, and possibly other anomalies. Etiology is unknown. The “Name Alert” is because this is a completely different disorder from Klippel-Trenaunay Syndrome (limb overgrowth due to AV fistulae).

**IMAGE:** [http://pbrlinks.com/KLIPPELFEIL1](http://pbrlinks.com/KLIPPELFEIL1) (View images and move on!)

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**Congenital Melanocytic Nevus**

Congenital melanocytic nevi are commonly referred to as moles. They may present at birth or within the first few months of life. They are generally benign but carry an increased risk of melanoma if there are multiple moles (more than three) or if they are > 20 cm. They are associated with spinal dysraphisms and Dandy Walker Syndrome (fossa abnormality).

**MCCUNE-ALBRIGHT SYNDROME (AKA POLYOSTOTIC FIBROUS DYSPLASIA)**

McCune-Albright syndrome (AKA Polyostotic Fibrous Dysplasia) findings include **irregular café-au-lait macules** (either > 3 cm or multiple), **precocious puberty**, **bone problems** (fractures, cranial deformities), and possibly other endocrine issues (hyperthyroidism). It can cause fractures of long bones and bowing of arms.

**IMAGE:** [http://pbrlinks.com/MCCUNE1](http://pbrlinks.com/MCCUNE1)

**Mnemonic:** Call it MACULE Albright Syndrome from now on.

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**Tuberous Sclerosis**

Tuberous sclerosis is **autosomal dominant**. Look for at least 2 of the following features:

* **ASH LEAF SPOTS:** These are hypopigmented lesions, which can be seen with a Woods Lamp. You need at least 3 on the body to help make the diagnosis.
  
  - **IMAGE:** [http://pbrlinks.com/TUBERSCLERO1](http://pbrlinks.com/TUBERSCLERO1)
  - **IMAGE:** [http://pbrlinks.com/TUBERSCLERO2](http://pbrlinks.com/TUBERSCLERO2)

* **SHAGREEN PATCH** (hypeRpigmented plaque that can be rough/thick and papular)
  
  - **IMAGE:** [http://pbrlinks.com/TUBERSCLERO3](http://pbrlinks.com/TUBERSCLERO3)
  - **IMAGE:** [http://pbrlinks.com/TUBERSCLERO4](http://pbrlinks.com/TUBERSCLERO4)

* **angiofibromas (aka adenoma sebaceum or sebaceous hyperplasia)**
  
  - **PEARL:** Often misdiagnosed as acne. LOOK FOR SPARING OF THE FOREHEAD.
  - **IMAGE:** [http://pbrlinks.com/TUBERSCLERO5](http://pbrlinks.com/TUBERSCLERO5)

* **periventricular or cortical tubers:** Usually associated with infantile spasms or seizures

* **Cardiac Rhabdomyomas:** Look for a kid with arrhythmias!

* **Renal angiomyolipoma**

**Management of Tuberous Sclerosis:** Most of the management has to do with seizures/infantile spasms and cardiac arrhythmias.

- **Mnemonic:** Imagine a TUBULAR bazooka shooting out WHITE LEAVES. The leaves have DANCING (seizing) tics on them!
• **MNEMONIC**: ASH is typically GRAY/WHITE/HYPOPIGMENTED, whereas a "PATCH of GREEN" is typically DARKER/HYPERPIGMENTED.

• **MNEMONIC**: ASHES come from burned WOOD. A Woods lamp is needed to see them.

**NEUROFIBROMATOSIS I (NF1)**

Neurofibromatosis I (NF1) is an AUTOSOMAL DOMINANT disorder involving the SKIN, BONES, and NERVOUS SYSTEM. Diagnose with at least 2 of the following:

* First-degree relative has the disease
* Neurofibromas
* Lisch Nodules in the iris (they look like mini neurofibromas)
  
  • **IMAGE**: [http://pbrlinks.com/NF1](http://pbrlinks.com/NF1)

  * Optic nerve gliomas. This is the neurologic component.

  * 6 **REGULAR** café-au-lait macules. As they get older, the SIZE DOES MATTER. If prepubertal, these are > 5 mm, if postpubertal, > 15 mm. Ten years of age is a good cutoff. These macules can be present at birth. Children can have an increase in the size and number as they age. Therefore, it is very important that they have regular follow-up, especially if there is a family history of the disorder. As a side note, children can also get pheochromocytomas or renal artery stenosis, so the BP should be monitored regularly.

  * Scoliosis or bony abnormalities
  * Axillary or inguinal freckling

  * **MNEMONIC**: (FOR NF-1) SKIN + “ORTHO” + NEURO issues = S.O.N. This is NF ONE, SON (or daughter)!!!

**NEUROFIBROMATOSIS 2 (NF2)**

(Low-yield topic). Neurofibromatosis 2 (NF2) findings include nonmalignant tumors of the nervous system, especially acoustic nerve tumors (AKA neuromas or schwannomas). These can cause tinnitus or even hearing loss. Patients can also have eye tumors, cataracts, retinal problems, spinal cord tumors, and meningiomas. Look for a family history.

**PEARL**: Tuberous Sclerosis and Neurofibromatosis are both AUTOSOMAL DOMINANT, BUT they both have a HIGH RATE OF NEW MUTATIONS. Do not exclude these from your differential if they mention that the patient’s parents do not have the disorder.

**INCONTINENTIA PIGMENTI**

Incontinentia pigmenti is a severe X-linked DOMINANT disease that results in DEATH for all MALES. If presented with this as an answer choice, make sure the ABP vignette refers to a FEMALE patient. There are four stages of this disorder: Inflammatory vesicular phase, followed by a verrucous phase, followed by the hyperpigmentation phase noted along the lines of Blaschko, and finally a phase in which the hyperpigmentation disappears. This can leave atrophy or hypopigmentation behind.

**SYSTEMIC ASSOCIATIONS**: DELAYED DENTITION, mental retardation, paralysis, PEG teeth, and seizures.

**IMAGE**: [http://pbrlinks.com/INCONTINENTIA1](http://pbrlinks.com/INCONTINENTIA1)
**IMAGE**: [http://pbrlinks.com/INCONTINENTIA2](http://pbrlinks.com/INCONTINENTIA2)
**IMAGE**: [http://pbrlinks.com/INCONTINENTIA3](http://pbrlinks.com/INCONTINENTIA3)
**IMAGE**: [http://pbrlinks.com/INCONTINENTIA4](http://pbrlinks.com/INCONTINENTIA4)
**MNEMONIC**: As WOMEN age, they tend to have more "INCONTINENTs." Incontinentia = Female patient. Imagine a WOMAN on the ground having a SEIZURE. She becomes INCONTINENT of urine, which streams down her PEG legs and creates black-and-white LINEAR SKIN LESIONS. PEG refers to PEG TEETH.

**HYPOHIDROTIC ECTODERMAL DYSPLASIA**

Hypohidrotic ectodermal dysplasia is a condition related to INCONTINENTIA PIGMENTI, but this can occur in boys. It is associated with HYPOHIDROSIS, decreased sweating, which can lead to hyperthermia; HYPOTRICHOSIS, sparse hair, so no eyebrows/lashes; DELAYED TOOTH ERUPTION; and DEFORMED/PEG TEETH.

* **IMAGE**: http://pbrlinks.com/HED1
* **IMAGE**: http://pbrlinks.com/HED2

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**INFECTIOUS SKIN CONDITIONS**

**(DOUBLE TAKE) ECTHYMA GANGRENOSUM**

Ecthyma gangrenosum is usually a sign of a PSEUDOMONAS infection and possibly sepsis in an immunocompromised patient, especially LEUKEMIA! Look for a neutropenic patient with black, necrotic, ulcerative lesions with surrounding erythema and edema. These lesions are often located in the groin/diaper area.

* **IMAGE**: http://pbrlinks.com/ECTHYMA1

**(STREPTOCOCCAL INFECTIONS OF THE GROIN)**

Streptococcal infections of the groin or perineum are associated with pain with stooling, pruritis, redness, and possibly a fissure. Unlike zinc deficiency, there is no desquamation. If vaginal or vulvovaginitis, look for a history of vaginal discharge. Diagnose by culturing the area. Treat with amoxicillin, penicillin (PCN), or a first generation cephalosporin. Risk factors include abuse and previous instrumentation. Look for a history of recent antibiotics in case the discharge is due to Candida.

**(DOUBLE TAKE) CUTANEOUS CANDIDIASIS, A DIAPER DERMATITIS**

Cutaneous candidiasis, a diaper dermatitis, can occur secondary to a contact dermatitis or recent antibiotic use. It presents as a beefy red rash with papular satellite lesions. This rash goes into the inguinal folds. Use a KOH prep to confirm diagnosis, and treat with a topical antifungal, such as nystatin or clotrimazole.

* **IMAGE** (includes satellite lesions): http://pbrlinks.com/CUTASCAN1

**(BULLOUS IMPETIGO/STAPH SCALDED SKIN SYNDROME (SSSS))**

Bullous impetigo, or Staph Scalded Skin Syndrome (SSSS), is a spectrum of the same disease.

* **IMPETIGO**: Look for honey-colored crusting lesions and bullae. Non-bullous impetigo will look similar but without vesicle/bullae (more oozing/crusting).
  * **IMAGE**: http://pbrlinks.com/SSSS1
  * **IMAGE**: http://pbrlinks.com/SSSS2
  * **IMAGE**: http://pbrlinks.com/SSSS3

* **SSSS**: A very painful and red rash in which large, thin blisters are the result of an exotoxin. There is "sheet-like" skin loss/separation. This looks very superficial compared to impetigo. Obtain a BIOPSY to prove that it is SSSS and NOT Stevens-Johnson Syndrome (SJS) or Toxic Epidermal Necrolysis (TEN), both of which have deeper/dermal involvement.
• **IMAGE**: [http://pbrlinks.com/SSSS2](http://pbrlinks.com/SSSS2)
• **PEARL**: Lesions are **NOT** in the eyes or mouth but may be **around** the eyes and mouth (as opposed to SJS/TEN, which may be IN the eyes and mouth).

**STAPHYLOCOCCUS EPIDERMIDIS**

Staphylococcus epidermis is the most likely answer if you are presented with a premature baby that has a skin infection.

**CELLULITIS**

Cellulitis is defined as a well-demarcated area of erythema, edema, and induration secondary to an infection. It may be associated with bullae. For treatment, start with **Cefazolin** as your first line agent.

**TINEA CORPORIS**

In tinea corporis, a thin, circular lesion with **THIN SCALES**, a RAISED border, and central clearing is noted. The ring of the “ringworm” looks like a worm.

- **IMAGE**: [http://pbrlinks.com/TCORPORIS1](http://pbrlinks.com/TCORPORIS1)
- **IMAGE**: [http://pbrlinks.com/TCORPORIS2](http://pbrlinks.com/TCORPORIS2)

**TINEA VERSICOLOR**

Tinea versicolor results in hypopigmented OR hyperpigmented macules. It’s caused by MALASSEZIA FURFUR. Lesions may fluoresce under Woods lamp. Treat with selenium or zinc anti-dandruff shampoo, or with oral fluconazole, ketoconazole, but NOT griseofulvin (use that for T. capitis).

- **IMAGE**: [http://pbrlinks.com/TVERSICOLOR1](http://pbrlinks.com/TVERSICOLOR1)
- **IMAGE**: [http://pbrlinks.com/TVERSICOLOR2](http://pbrlinks.com/TVERSICOLOR2)
- **IMAGE**: [http://pbrlinks.com/TVERSICOLOR3](http://pbrlinks.com/TVERSICOLOR3)

**PITYRIASIS ROSEA**

Pityriasis rosea presents as oval, parallel lesions with THICK scales. Look for a herald patch (first lesion). It is associated with winter and spring. Lesions are often in a “Christmas tree pattern.” Treat with light exposure.

- **IMAGE**: [http://pbrlinks.com/PITYRIASIS1](http://pbrlinks.com/PITYRIASIS1)
- **PEARL**: Unlike secondary syphilis, there are no lesions on the palms/soles.

**MOLLUSCUM CONTAGIOSUM**

Molluscum contagiosum results in flesh-colored, pearly papules that are dome-shaped and **umbilicated**. It is caused by the POX virus. NO treatment is needed, but sometimes you may use cryotherapy or topical cantharidin, podophyllotoxin, imiquimod, or potassium hydroxide.

- **IMAGE**: [http://pbrlinks.com/MOLLUSCUM1](http://pbrlinks.com/MOLLUSCUM1)

**MNEMONIC**:

\[
\text{mollusc}\underline{U}m\text{bilicated} \text{ Papules} \\
O \\
X
\]

**(DOUBLE TAKE) HUMAN PAPILLOMA VIRUS (HPV)**

Human papilloma virus (HPV) causes VERRUCA VULGARIS (warts). They can be on the hands, knees, and feet, and in the anogenital region. If genital, the condition is referred to as CONDYLOMA ACUMINATA.
Genital human papilloma virus IS considered to be an STD. In fact, HPV is considered the most prevalent STD of all. Only a small percentage of patients actually carrying HPV get warts. More than 90% of infections are from HPV 6 or HPV 11, which are NOT likely to induce cervical cancer. The risk of cervical cancer is increased depending on the subtype (16 and 18 are most commonly associated with cervical cancer). Anogenital warts can be due to maternal-fetal transmission and may not present until 3 years after birth! BUT if you note anogenital warts AFTER 3 years of age, think SEXUAL ABUSE. Lesions are NOT tender but easily bleed with minimal trauma. Treat with self-applied topical podofilox or imiquimod. Treatment with cryotherapy or podophyllin is done by a physician.

**IMAGE:** http://pbrlinks.com/HPV1 (Acuminata)
**IMAGE:** http://pbrlinks.com/HPV2

**Mnemonic:** Don't get confused with molluscum. hpV = VVarts/Warts = Verruca Vulgaris = Venereal VVarts/Warts. "VVarts on your hands or knees? It's probably from those darn V's!"

**Mnemonic:** The HPV 16 & HPV 18 strains are the two you should remember (associated with the highest risk of cervical cancer): Imagine an adolescent couple. Their birthdays are on the same day, 7/1 (Zodiac of CANCER). The boy is turning 18, and he's excited to finally VOTE. His girlfriend is turning 16, and she's excited because she'll finally get her DRIVER'S LICENSE now that she's celebrating her SWEET SIXTEENTH. As they go to blow out the BIRTHDAY CAKE candles, you notice that she has VVarts on her lips! It turns out he also has VVarts, but his are Venereal (anogenital).

**NAME ALERT:** An “A” in Acuminata looks like a flipped “V,” which may help you remember that a diagnosis of Condyloma Acuminata represents an hpV infection. The “L” in Condyloma Lata should remind you that you are dealing with syphiLis.

**CONDYLOMA LATA**

Condyloma lata is found in secondary syphiLis = White-gray, coalescing papules. These appear much more FLAT than Condyloma Acuminata.

**IMAGE:** http://pbrlinks.com/CONDYLOMA1

**NAME ALERT:** An “A” in Acuminata looks like a flipped “V,” which may help you remember that a diagnosis of Condyloma Acuminata represents an hpV infection. The “L” in Condyloma Lata should remind you that you are dealing with syphiLis.

**HERPES SIMPLEX VIRUSES 1 & 2 (HSV 1 & 2)**

Herpes simplex viruses 1 and 2 are similar. HSV-2 is usually an STD usually affecting the genitals, while HSV-1 most commonly affects the mouth (gingivostomatitis) but can appear in other sites as well.

Initial infections are often asymptomatic but can be relatively severe with very painful lesions, fever, and lymphadenopathy. Look for multiple painful ulcers or vesicles on the labia or penis (HSV-2) or in and around the mouth (HSV-1). The vesicles are CLUSTERED on an ERYTHEMATOUS BASE. Lesions can also be ULCERATIVE. Diagnose by obtaining a viral culture or HSV PCR. The Tzanck smear is not specific for HSV. Treat with ORAL Acyclovir x 7 days (not topical). Treat babies with IV Acyclovir.

HSV becomes latent after the primary infection and can reactivate later. Recurrent infections tend to be less severe and of shorter duration than primary ones. Pain often precedes the appearance of lesions. Patients DO shed virus during secondary infections.

**IMAGE:** http://pbrlinks.com/HSVII1
PEARL: HSV-1 can be associated with a very painful infection called a HERPETIC WHITLOW (typically of a thumb or finger).

IMAGE: http://pbrlinks.com/HSVII2

HERPES SIMPLEX VIRUS ENCEPHALITIS (HSV ENCEPHALITIS)

A question about herpes simplex virus encephalitis (HSV encephalitis) would likely mention fever, seizures, and possibly a CT finding in the temporal lobe. Treatment is STAT IV acyclovir, followed by a lumbar puncture to obtain fluid for PCR testing. An EEG might show PLEDs (periodic lateralizing epileptiform discharges).

HERPES SIMPLEX VIRUS GINGIVOSTOMATITIS

Herpes simplex virus gingivostomatitis presents with oral and perioral/vermillion border lesions/vesicles. Gingiva is friable and malodorous. There is associated lymphadenopathy. Usually caused by HSV-1.

IMAGE: http://pbrlinks.com/HSVSTOMATITIS1

(DOUBLE TAKE) ECZEMA HERPETICUM

Eczema herpeticum is a potentially life-threatening disseminated herpes (HSV) infection occurring at sites of skin damage, including sites of eczema. Look for HSV Vesicles + Crusted Lesions. Even if a description is not given of a vesicular rash, have a high index of suspicion for a rash “not improving with steroids and/or antibiotics.” Diagnose with a viral culture for HSV, but do not delay treatment. A Tzanck smear can support the diagnosis. Treat by STOPPING topical steroids and/or immunosuppressants and starting Acyclovir.

IMAGE: http://pbrlinks.com/ECZEMAHERPE1
IMAGE: http://pbrlinks.com/ECZEMAHERPE2
IMAGE: http://pbrlinks.com/ECZEMAHERPE3

(DOUBLE TAKE) BLUEBERRY MUDDIF SYNDROME

Blueberry muffin syndrome represents extramedullary hematopoiesis. This can be seen in congenital viral infections such as Rubella, Coxsackie, Cytomegalovirus (CMV), Herpes Simplex Virus (HSV), and Parvovirus. It can also be associated with congenital Toxoplasmosis (a protozoa).

IMAGE: http://pbrlinks.com/BLUEBERRY1
IMAGE: http://pbrlinks.com/BLUEBERRY2

SCABIES

Scabies presents as linear, papular, erythematous, pruritic, vesicular, and crusting lesions most often seen in areas with CREASES (wrist, groin, webbing of fingers). You may see burrows. Treat with permethrin overnight from head to toe for the entire family. Re-treat if the patient is still having symptoms after 14 days and LIVE MITES are found, because the persisting pruritis can be from residual inflammation. Try topical steroids or antihistamines for that interim.

PEARL: Unlike papular urticaria, lesions are not in crops.

IMAGE: http://pbrlinks.com/SCABIES1

PEDICULOSIS CAPITIS (AKA HEAD LICE)

Pediculosis capitis (AKA head lice) results in nits/ova of the lice at the hair shafts, especially in the occipital area. Treat with permethrin. The patient will have more symptoms at night when lice tend to be more active. Itching is from the bites. Unlike scabies, repeat permethrin again in 7–10 days because eggs can hatch up to 10 days later.
PEARL: If an African American child is pictured, it is NOT lice.

IMAGE: http://pbrlinks.com/HEADLICE1

PEDICULOSIS PUBIS (AKA PUBIC LICE or CRABS)
Pediculosis pubis (AKA pubic lice or crabs) is an infection in the groin that results in red, crusted suprapubic macules and possibly bluish-gray dots. There is a STRONG ASSOCIATION with sexual abuse in children.

IMAGE: http://pbrlinks.com/CRABS1

THE “ERYTHEMA” RASHES

ERYTHEMA NODOSUM
For erythema nodosum, look for PAINFUL, shiny, red to bluish skin lesions in a patient with a history of a chronic disease or on certain medications. Associations include Crohn’s Disease, Ulcerative Colitis, Drugs (oral contraceptives and sulfa drugs), Infections (Yersinia, EBV, Tuberculosis, fungal infections), and Sarcoidosis.

MNEMONIC: For this shiny skin finding, use CUDIS (kind of like CUTIS, which means skin) to help you remember the following associations: Crohn’s, UC, Drugs, Infections, and Sarcoidosis.

IMAGE: http://pbrlinks.com/ERYTHEMA-N1
IMAGE: http://pbrlinks.com/ERYTHEMA-N2
IMAGE: http://pbrlinks.com/ERYTHEMA-N3

(DOUBLE TAKE) ERYTHEMA CHRONICUM MIGRANS
Erythema chronicum migrans (AKA erythema migrans) is caused by BORRELIA BURGDORFERI, the spirochete that causes LYME DISEASE. Look for a large, flat lesion (> 5 cm) that is annular and has a red border. It is located at the tick bite site in about 75% of patients. The classic description is a “bulls eye” lesion. The rash shows up 1–2 weeks after the bite. Titers may still be negative during this period. Borrelia is transmitted via the Ixodes deer tick. IF the patient has an acute arthritis, disseminated erythema migrans, a palsy (BELL’S PALSY), or neuropathy, then treat with ORAL medication (doxycycline if >8 years old, or penicillin or amoxicillin if < 8 years old). If the patient has CARDITIS, neuritis (encephalitis/meningitis), or RECURRENT arthritis, treat with INTRAVENOUS medication (PCN or ceftriaxone). Arthritis is usually located at the large joints (especially the knees). Diagnosing using labs is often difficult. Obtain Lyme antibody titers. If these are positive, confirm with a Western blot. Lyme Disease is often a clinical diagnosis (for example, if you see erythema migrans, TREAT).

* IMAGE: (BULLSEYE LESION) http://pbrlinks.com/ERYTHEMA-C1
* IMAGE: (BELL’S PALSY) http://pbrlinks.com/ERYTHEMA-C2

* SIDE NOTES
  - BELL’S PALSY: Unilateral facial nerve paralysis (CN VII). It is often idiopathic.
  - The Jarisch-Herxheimer reaction results in fever, chills, hypotension, headache, myalgia, and exacerbation of skin lesions during antibiotic treatment of a bacterial disease (typically spirochetes). This is due to large quantities of toxins released into the body. It is classically associated with syphilis but can also occur with Lyme disease. It may only last a few hours.
* MNEMONICS:

- From now on, think/say borreLIYME. “Don’t ever throw a borreLIYME to MY GRANny!” Or, “Don’t ever borre-LIE to MY GRANny.” borreLIYME = Borrelia. MY GRANny = Migrans.
- Imagine that BULL’S EYES are made of two bright neon-green LIMES! This should remind of you of the classic description.
- Imagine squeezing LYME into a CAN = Carditis, Arthritis, and Neuritis.

(DOUBLE TAKE) ERYTHEMA MARGINATUM

- Erythema marginatum is a transient, erythematous, macular and light colored. It is described as being “SERPENTiginous” (snakelike) and the MARGIns are noted progress as the center clears. It is part of the Jones criteria for Rheumatic Fever.
- IMAGE: [http://pbrlinks.com/ERYTHEMA1](http://pbrlinks.com/ERYTHEMA1)

MNEMONIC: The E in Erythema is part of the E in jonEs, and the name MARGINatum should remind you to look for an interesting description of the rash’s MARGIns. Erythema MARGINatum.

(DOUBLE TAKE) ERYTHEMA INFECTIOSUM

Erythema infectiousum IS an INFECTIOUS rash!!! It is caused by Parvovirus B19. It is also called Fifth Disease Look for erythematous facial flushing of the cheeks (sometimes described as “slapped cheeks” appearance). The extremities will have diffuse macular (or morbilliform) erythema (especially on the extensor surfaces) referred to as “lacy” or “reticular.” Diagnose with IgM titers. (There is no culture or rapid antigen available.)

PEARLS: The rash occurs AFTER the slapped cheeks rash (often a week later). Patients may also have knee or ankle pain. Parvovirus B19 infection can result in APLASTIC CRISIS. Intrauterine exposure can result in hydrops fetalis.

MNEMONIC: infectio5uM = FIFTH disease = “Fiver fingers.” Imagine a cheek being SLAPPED with FIVE fingers covered by a white LACY glove with a red M on the back of it (extensor surface). M = IgM titers.

MNEMONIC: ParVoVirus B19: From now on, say/think “parVoVirus V19.” V = Roman numeral 5!

ERYTHEMA TOXICUM NEONATORUM

See in next section (Newborn Rashes).

ERYTHEMA MULTIFORME

See the Stevens-Johnson syndrome section for more information on erythema multiforme. Look for target lesions.

THE NEWBORN RASHES

MILIARIA RUBRA

Look for very superficial vesicles that are easily ruptured in a case of miliaria rubra. This occurs due to obstruction of sweat glands and is also called “prickly heat rash.”

IMAGE: [http://pbrlinks.com/MILIARIA1](http://pbrlinks.com/MILIARIA1)

MNEMONIC: Miliaria sounds like malaria, which is usually found in hot countries where you sweat!
MILIA
Milia are small, pearly inclusion cysts that look like little white heads. There’s NO associated erythema. If milia are on the nose, they can be very easy to confuse with SEBACEOUS HYPERPLASIA.

IMAGE: http://pbrlinks.com/MILIA1
IMAGE: http://pbrlinks.com/MILIA2

SEBACEOUS HYPERPLASIA
In sebaceous hyperplasia, pinpoint white-yellow papules appear on the nose and central face. There is NO associated erythema. It results due to maternal androgen exposure and is benign.

IMAGE: http://pbrlinks.com/SEBACEOUSHYPERPLASIA1
IMAGE: http://pbrlinks.com/SEBACEOUSHYPERPLASIA2

ERYTHEMA TOXICUM NEONATORUM
Erythema toxicum neonatorum is seen in up to 50% of newborns and consists of erythematous macules with raised central lesions (papules or vesicles). This is usually seen at birth or by DOL 2. It is a benign rash with an unknown etiology. It usually disappears by DOL 7. Diagnose by noting eosinophils on microscopy.

IMAGE: http://pbrlinks.com/ERYTHEMA-T1

MNEMONIC: Although the name “TOXICum” suggests otherwise, this is a NON-toxic rash resulting in non-toxic looking babies.

MNEMONIC: This is an Early, Erythematous, “Eosinophilled” rash called Erythema toxEEEcum.

TRANSIENT NEONATAL PUSTULAR MELANOSIS
Transient neonatal pustular melanosis is more common in African-American kids. This is a benign rash with NO associated erythema. It starts in utero and is PRESENT AT BIRTH. It resolves within a few days but can leave hyperpigmented macules for a while. Diagnose by examining contents and looking for PMNs on Tzanck smear.

IMAGE: http://pbrlinks.com/TRANSIENT1
IMAGE: http://pbrlinks.com/TRANSIENT2

MNEMONICS: Transient neonatal PUStular melanosis should remind you of the PMNs on the Tzanck smear in the PUS-like contents of these PUStules. MELANosis should make you think about dark-skinned individuals (AA kids) and the dark macules that can be left behind.

NEONATAL ACNE (AKA NEONATAL CEPHALIC PUSTULOSIS)
Neonatal acne (AKA Neonatal Cephalic Pustulosis) occurs within the first month of life and resolves by 4 months of age. Look for inflammatory pustules on the cheeks and forehead without comedones. This is a benign rash that requires no treatment.

IMAGE http://pbrlinks.com/NCP1

MNEMONIC: NEONATal = FIRST MONTH OF LIFE!

INFANTILE ACNE
Infantile acne looks like typical pubertal acne, but it is found in babies. Onset is usually around 2–3 months of age, and it is due to androgenic stimulation. There can be COMEDONES (whiteheads and blackheads). The rash can resolve in a few weeks or it can take up to a year to resolve.
**MNEMONIC:** INFANTile = Infants. Don’t choose this if the baby is 4 weeks old.

**IMAGE:** http://pbrlinks.com/INFANTILE1

**LIVEDO RETICULARIS (AKA CUTIS MARMORATA)**

Livedo reticularis (AKA cutis marmorata) presents as a mottled, reticulate patterned rash and may be described as a lacy rash. It is benign and resolves by 1 month.

**IMAGE:** http://pbrlinks.com/LIVEDO1
**IMAGE:** http://pbrlinks.com/LIVEDO2

**PEARL:** If the baby is healthy and without any concerning symptoms, choose this. If not, consider sepsis in your differential.

**ALOPECIA & HAIR FINDINGS**

**ALOPECIA AREATA**

In alopecia areata, there are round/well-circumscribed area(s) of alopecia. Alopecia can be on the scalp or in other areas. Hairs at the periphery of the areas are short, **pluckable**, and may resemble an **exclamation point!**

**IMAGE:** http://pbrlinks.com/ALOPECIA-A1
**IMAGE:** http://pbrlinks.com/ALOPECIA-A2
**IMAGE:** http://pbrlinks.com/ALOPECIA-A3

**ALOPECIA TOTALIS**

Alopecia totalis is the loss of all hair on the HEAD.

**IMAGE:** http://pbrlinks.com/ALOPECIA-T1

**ALOPECIA UNIVERSALIS**

Alopecia universalis is the loss of all hair on the entire BODY. There is usually a **SYSTEMIC** etiology such as hypothyroidism, a nutritional deficiency, or even lupus (SLE).

**DOUBLE TAKE** ZINC DEFICIENCY

Breastfeeding helps with zinc absorption. If a child begins having medical problems once weaned from breast milk, consider zinc deficiency in your differential. Zinc deficiency causes a **SCALY and EXTREMELY ERYTHEMATOUS** dermatitis in the perioral and perianal area (**around the natural orifices**) that can **DESQUAMATE**. The rash is sometimes described as erosive and eczematous. It can also be associated with ALOPECIA and poor taste.

* **MNEMONIC:** Poor taste, huh? Have you ever had Zinc lozenges? They are disgusting! It’s probably a good thing that you have hypogeusia when you are eating Zinc lozenges!

* **IMAGE:** http://pbrlinks.com/ZINC1
* **IMAGE:** http://pbrlinks.com/ZINC2
* **IMAGE:** http://pbrlinks.com/ZINC3
* **IMAGE:** http://pbrlinks.com/ZINC4

* **PEARLS:**
  * **CROHN’S DISEASE:** If a Crohn’s patient is suffering from diarrhea, they may have zinc deficiency since Zn is lost in the stool.
• (DOUBLE TAKE) STRICT VEGETARIANS AND VEGANS may be susceptible to multiple nutritional deficiencies, including deficiencies in IRON, ZINC, CALCIUM, and VITAMIN B12. Vegans avoid all animal-derived products (including milk and eggs). B12 deficiency can result in megaloblastic anemia, vitiligo, peripheral neuropathy, and even regression of milestones.
  ○ MNEMONIC: Did you know giraffes are vegetarian? Imagine a giraffe standing in Times Square reaching its long neck into the sunroof of a FUZZY CAB that has green, grass-like seats and fuzzy floor mats. FUZZY CAB = FeZi CaB12!

(DOUBLE TAKE) ACRODERMATITIS ENTEROPATHICA

Acrodermatitis enteropathica is an inherited condition (autosomal recessive) in which there is a zinc transport defect. It can result in alopecia, diarrhea, failure to thrive (FTT), and the rash of zinc deficiency.

IMAGE: http://pbrlinks.com/ACRODERMATITIS1

(DOUBLE TAKE) BIOTIN/BIOTINIDASE DEFICIENCY

Biotin and biotinidase deficiencies may present with a RASH + ALOPECIA + NEUROLOGIC SIGNS (ataxia, coma, etc.). Patients may also have lactic acidosis. Treat with biotin.

MNEMONIC: Imagine the TIN MAN from The Wizard of Oz walking with an ATAXIC gait as he SCRATCHES his arm. Notice that he has NO HAIR!

TELOGEN EFFLUVIIUM

Telogen effluvium is a form of acute hair shedding that occurs diffusely. Instead of patches, you see “thinning” of the hair. The hair that is shed can be recognized by a small bulb of keratin on the root end. It was too young to shed. This is often related to a psychological or medical stressor. Treat with REASSURANCE because the hair will grow back.

IMAGE: http://pbrlinks.com/TELOGEN1
IMAGE: http://pbrlinks.com/TELOGEN2

TINEA CAPITIS (AKA RINGWORM)

Tinea capitis (ringworm) results in broken hair that looks like “black dot alopecia.” There is often inflammation, and this condition can be associated with a kerion (a raised spongy lesion). Treat with GRISOFULVIN. You do not need any baseline labs.

IMAGE: http://pbrlinks.com/TINECAPITIS1
IMAGE: http://pbrlinks.com/TINECAPITIS2

TRICHOTILLOMANIA

Trichotillomania is a body-focused repetitive behavior in which patients pull out their hair. (This may be on a location other than the scalp.) Look for loss of hair in an irregular pattern (not a nice circle). Also, the irregularly shaped patches will contain incomplete hair loss in which you will see hair of differing lengths.

IMAGE: http://pbrlinks.com/TRICHOTILLOMANIA1
IMAGE: http://pbrlinks.com/TRICHOTILLOMANIA2

(DOUBLE TAKE) ESSENTIAL FATTY ACID DEFICIENCIES

Essential fatty acids include LINOLEIC ACID and alpha-linolenic acid. Deficiency results in alopecia, a scaly dermatitis, and thrombocytopenia. Treat with IV lipids.
MNEMONIC: Imagine a fish whose red SCALES are shaped like HAIRY PLATELETS. As the fish struggles to find food, it becomes SKINNIER and skinnier (malnourished) and the hairy platelets begin to fall off. What’s left is a SKINNY (fat-free), BALD, and THROMBOCYTOPENIC fish!

APLASIA CUTIS CONGENITA

In aplasia cutis congenita, there is a congenital absence of the skin in an area. It is usually in a single location (most often the scalp) but can be in multiple areas. After the lesion heals and scars, a BALD SPOT is left behind. Aplasia cutis can be associated with underlying spinal dysraphisms and underlying skull defects.

IMAGE: http://pbrlinks.com/APLASIACUTIS1
IMAGE: http://pbrlinks.com/APLASIACUTIS2

PEARLS: Look for the HAIR COLLAR SIGN. This is a hairless area with a collar of dense hair at the edges. If given a picture of a scalp with the hair collar sign, get an MRI.

IMAGE: http://pbrlinks.com/APLASIACUTIS3
I really hope that you’ve enjoyed this free chapter. The links are active to show you how valuable an online learning experience can be. My sincere recommendation is that you purchase a PBR bundled product that includes both the online AND the hardcopy versions of the PBR materials so that you can mark things up, make notes, but also be EFFICIENT!

Now… how about a handful of free questions?

Scroll to the next page to get a sample of the PBR Questions & Answers.
QUESTIONS

1. A premature baby needs:
   a. More sodium than a full term neonate. Sodium supplementation should be started immediately.
   b. More sodium than a full term neonate. Sodium supplementation can be started after 24 hours.
   c. Less sodium than a full term baby.
   d. The same amount of sodium as a full-term baby.

2. A premie is born at 33 weeks in a taxi. In the ER, the baby is noted to have a temperature of 35 degrees Celsius. The child should be placed:
   a. In a bassinette.
   b. In an incubator at 40 degrees Celsius.
   c. Under a radiant warmer at max temperature.
   d. Under a radiant warmer at preferred skin temperature.

3. An LGA baby is noted to have a firm, freely mobile, erythematous and nodular mass with distinct borders at the upper cheek on DOL 13. This is likely:
   a. Fat necrosis of the newborn.
   b. A lipoma
   c. A sarcoma
   d. Related to child abuse.

4. Which abnormality is common in the recipient of a PRBC transfusion and also in the recipient twin of a twin-to-twin transfusion?
   a. Hyponatremia
   b. Hypokalemia
   c. Hypocalcemia
   d. Hypophosphatemia

5. A child is born by a normal vaginal delivery. About an hour later he is noted to be tachypneic and pale. Labs show that he is anemic. Reticulocyte count is 15%. The RBCs are noted to be normal under microscopy. What is the likely etiology of these finding?
   a. Chronic intrauterine blood loss.
   b. Acute blood loss at birth.
   c. Congenital heart disease.
   d. Congenital syphilis
ANSWERS?

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Best,
- Ashish
Hope You’ve Enjoyed It!

A Few [CRITICAL] Reminders

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This exam is MUCH HARDER than the USMLE exam. Go through the PBR Core Study Guide and the Q&A Book 3–5 times. Go through the material AT LEAST three times if you’re recently out of residency, studying for the initial certification boards, and typically score above the national average on board exams and in-training exams. Go through the material AT LEAST FIVE times if you typically score below the national average on medical board exams, if you have ever failed a medical board exam or if you come from an “at risk” residency program with less than a 90% first-time pass rate.

TAKEING THE MOC? READ MORE!

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http://www.pediatricsboardreview.com/technique
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Again, CONGRATS on getting through the book! Now let’s do it again!!!

- Ashish & Team PBR
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