

## Paediatric Blood Collections



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Paediatrics:  
Who are we talking about?



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## Paediatrics

- Greek origin
- "*Paidi*" meaning: "boy"
- "*iatros*" meaning: "doctor"
- Refers to the treatment of patients ranging in age from newborn to young adult

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## At a glance...



- Comparisons between paediatric and adult blood collections
- Techniques of collecting from the young
- Psychology involved
- Self-protection and you

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## Comparisons: Paediatric and Adult Collections

- Size differentiation
- Angle of penetration
- Rigidity of vein
- Reliable vein development versus development of muscle, tendon and subcutaneous tissue
- Psychology

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## Comparisons: Paediatric versus Adult Collections

- Psychology (cont.):
  - Willingness versus refusal
  - Acceptance versus negotiation
  - Resolve versus fear



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Comparisons:  
**Size Differentiations-Adult**

- Reliable consistency
- Straw-sized
- Substantially visible
- Palpable
- Fully developed

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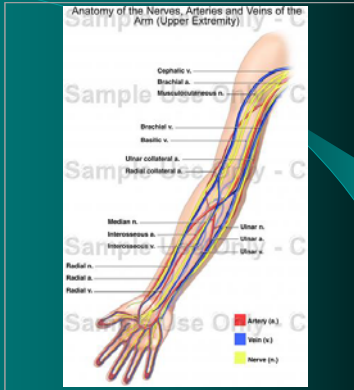
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Comparisons:  
**Size Differentiations-Paediatric**

- Blood vessel dimensions are highly correlated with age, height, weight and body surface area
- Physical location of vein is similar to adult
- Palpation rather than visual
- Undeveloped

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## Rigidity



- Significant reliance on venous development
- Softer texture
- The “rebound effect”
- Tendency to earlier collapse
- Decision to resort to capillary collection?  
*(Example: Bilirubin on a newborn, Ionized Calcium on a 4-year old)*

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## Tissue Development

- Muscular growth
- Tendons, nerves and subcutaneous tissue
- Pronounced bone structure (valley effect)
- Rolling veins, lack of anchorage
- Factors which lead to “digging” with the syringe tip
- Significant challenge in the blood collection process

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## Psychology

- Willingness versus refusal
- Acceptance versus negotiation
- Resolve versus fear
- The child prepares in a different way than an adult does
- Presence of the parent / guardian affecting the outcome
- Comparable to surgery, but with a conscious patient

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## Techniques



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## Techniques of Paediatric Collections

- Butterfly as preferred method
- Advantages of safety versus non-safety



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## Techniques of Paediatric Collections

- Using a syringe (Ex. 3cc, 5cc or 10cc) rather than depending on the vacutainer holder
- Manual pullback is stronger than vacuum



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## Techniques of Paediatric Collections

### Restraining Methods

- Think in terms of helping rather than forcing
- Involve the parent
- Variations depending on inpatient versus outpatient
- "Wrapping"
- Hugging

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## Techniques of Paediatric Collections

### Restraining Methods

- If child is on lap, then have them sit on one of parent's legs with both of child's legs tucked between parents knees
- This aligns the patient properly with the phlebotomist, and prevents them from kicking
- Manual restraining above and below the collection site (shoulder and wrist)

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## Techniques of Paediatric Collections

### Tourniquet Application

- Need to maximize chances of successful collection
- Remember that the vein is still developing and might need to rely on firm tightness
- Ideally, tourniquet should not be kept on for more than one minute
- If possible, apply heat
- If using a hand, consider a bucket of warm water

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## Techniques of Paediatric Collections

### Insertion Principles



- Cantilevering of elbow
- The option factor:
  - Choose your options of direction **before** insertion
  - Minimize the odds of unnecessary "digging"
- Avoid plunging the needle right up to the hilt
- Often, a drawback does the trick
- If vacutainer is slowing down, replace with a syringe

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## Techniques of Paediatric Collections

### Microlancet Option

- When no vein available
- When only a small volume is necessary (Ex: CBC, Glucose, etc...)
- Patient is abnormally terrified
- Heel or finger option
- Heating of extremity very helpful
- Watch for excessive bleeding (5-minute compression on fingers of Paediatrics)

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Psychology

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## Collections and Psychology

- The parent
- The child



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## Collections and Psychology

- Parent is wanting to protect, reassure, nurture and comfort their child
- Parent may already feel compromised or limited in fulfilling this role
- The phlebotomist can easily be viewed as:
  - a) The hero
  - b) The villain
- Establish a partnership, show the parent how they *can* fill the role of protector

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## Collections and Psychology

- Preparing the parent is part of preparing the child
- Maintaining tenderness while demonstrating professional confidence
- Proper dialogue:
  - Present yourself as a crucial part of health care
  - Avoid establishing yourself as the middle person
  - Be determined and follow through
- Eye contact!
- By equipping the parent with the right tools, this will work as a sturdy platform upon which to work with the child

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## Collections and Psychology

- The child's first impression is very analytical
- What you bring into the room often stays in the room
- Tenderness is especially important, but not without confidence and appropriate firmness
- Empathize with the child:
  - Affirm that they are scared (if they express so)
  - Assure them that it is okay not to be brave
  - Ask them if they will try to do this task with you
- Have a sense of humour
- Pleasantness is next to Professionalism

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## Collections and Psychology

- Balancing act
- Exceptions to every rule
- Dysfunctional situations might need the presence of another healthcare worker
- You might have to take on more of a disciplinary role
- Express yourself as the one in charge (without being offensive or unprofessional)

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## Collections and Psychology

- Remember that your role is an excellent role
- You are helping in a very unique and special way



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## Self Protection

A few ways to make sure your role in the treatment process is carried out with efficiency, orderliness and safety



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## Self Protection

- Monitor volume of collections
  - Safeguards against potential overdrawing
  - Lessens the arousal of suspicion from the parent
  - Contributes to the success of collecting all ordered bloodtests
- Be sure of entry point before insertion
  - Avoid withdrawing from the "trust" bank
- Monitor skin tone (tourniquet)
  - Tourniquet can always be reapplied afterwards

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## Self Protection

- Have a clean worksite
  - Dispense with used gauze at the bedside
  - Open alcohol swabs at moment of use, not before
  - Clean up messes as they arise
  - Blood never looks good (wipe it away)
- Answer questions/communicate
- Be honest about your level of knowledge
- Treat the family like they are in their own home
- Be honest to your supervisor about mistakes you've made
- If you're not able to perform, get another MLA

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## Looking Back...

- Compared paediatrics with adults
  - Anatomy, tissue development, and differences of psychological approaches
- Outlined techniques of paediatric collections
  - Butterfly versus straight syringe, manual pullback instead of vacutainer reliance and some insertion principles
- Considered the psychology of both parents and their children
  - How both work off of each other
- Examined how MLA's can protect themselves

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Thank you.

May your approach be constantly improving.



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