

# **Pediatric PK Studies: Balance Between Ethical, Scientific, Practical Considerations**

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# Affiliations and Disclosures

- Physician (allergist), parent, and researcher
- Experienced as clinical investigator in over 50 pediatric PK/efficacy studies, with a total of over 350 trials
- WCCT is performing pediatric PK studies sponsored by McNeil & Wyeth for phenylephrine, brompheniramine, and chlorpheniramine
- Speaker support provided by the Consumer Healthcare Products Association

# What Types of Studies Are Needed To Determine Appropriate Doses for C&C Ingredients?

- Single-dose pediatric PK studies needed and necessary to guide appropriate dose selection
- Doses that are based on weight and age algorithm are most appropriate for pediatric populations

# Discussion Topics

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- How should Pediatric PK studies be designed?
- What study populations are appropriate for PK studies of Cough/Cold ingredients?

# Design of Pediatric PK Studies: Ethical Considerations



- Necessary to limit study objectives
  - Single dose studies
  - Blood volume restrictions
- Withholding drugs from those who need them

# Design of Pediatric PK Studies: Scientific Considerations

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- Restrictions on diet may not be practical (fasting in small children)
- Ideally restricting concomitant drugs (may cause more discomfort)
- Diagnostic certainty (AR vs URI): avoid skin testing to minimize invasive procedures
- Challenging to interpreting & determining adverse events by pediatric subject

# Design of Pediatric PK Studies: Practical Considerations

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- Squeamish about blood sampling
- Fearful of ECG leads and other procedures
- Youngest don't urinate on request for timed collections
- Housing overnight with parents
- Level of cooperation may change during the study
- Unnecessary additional risk to child and others sequestered in a unit for a PK study when child is sick

# Enrolling Asymptomatic Subjects

- In general, pediatric studies should be conducted in subjects who may benefit from participation in the trial. Usually this implies the subject has or is susceptible to the disease under study. The Advisory Subcommittee utilized a broad definition of potential benefit. For example, any child has the potential to benefit from a treatment for otitis media

Pediatric Advisory Subcommittee from FDA Pediatric Ethics Working Group, 11/15/99

# Examples of Pediatric PK Studies Enrolling Asymptomatic Subjects

- Pediatric albuterol PK studies
  - Asymptomatic asthmatic children: if symptomatic, withholding albuterol to enter a PK study would pose a greater than minimal risk to a child who is untreated
- Pediatric triptan PK studies
  - Often enroll asymptomatic children, difficult to time PK evaluation when migraine occurs

# Asymptomatic Subjects: Examples of Inclusion Criteria For C&C PK Studies

- Subjects must have a history of frequent upper respiratory infection or allergic rhinitis and, in the opinion of the investigator, the subject may require or benefit from the administration of drug X.
- Subjects have experienced upper respiratory symptoms and who will benefit from future use
- Subjects who are at risk of developing cough & cold and may require or benefit from the administration of drug X

# Recommendations for Pediatric PK Studies for C&C Ingredients

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- Allow healthy asymptomatic subjects to be enrolled in PK studies as they may benefit from future use of such OTC drugs