



**FAMILY  
NURSE PRACTITIONER  
CERTIFICATION REVIEW/  
CLINICAL UPDATE  
CONTINUING EDUCATION COURSE**



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Barkley & Associates  
8235 Santa Monica Blvd., Suite 201  
West Hollywood, CA 90046

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*“Providing the Nation’s BEST Nurse Practitioner  
Continuing Education Courses”*

On behalf of the company, welcome to a Barkley & Associates Certification Review/Clinical Update Continuing Education Course. Please take a moment to read the following information to maximize the benefits involved in taking one of our courses.

Barkley & Associates’ BLITZ courses are specifically designed to assist you in organizing a large body of information to help identify your learning needs so that when you return home, time can be efficiently spent focusing on areas of weakness. It is important to remember, “we tend to study what we already know and/or are familiar with.” Therefore, we hope that our outlined approach to covering material will help you highlight both content which you have mastered, as well as specific areas to remediate.

When preparing for certification exams, it is helpful to remember that all certification bodies are required to document the answers and/or rationales for correct answers to questions from at least two expert sources within a particular field. Therefore, time should be spent reviewing MAJOR, NATIONAL standards of care, developmental milestones, national health promotion guidelines, and the like rather than obscurely found disorders or controversial treatments and therapies. Every effort has been made to structure our course content to match exam content outlines by each certification body. There is no need to take copious notes. Rather, simply highlight and make notes on your handouts regarding areas of weakness to specifically revisit once you are studying alone at home.

The following tips have also been instrumental in our > 99% pass rate on ALL national certification exams! We strongly recommend that you follow each of these recommendations to maximize your success:

- Study and master OUR material FIRST – before concentrating on additional notes, texts or question/answer books. The content outlined in our handouts is absolutely essential information to know.
- How do you know that you know what you know? You must be asked! Therefore, quiz with a partner and be expected to clearly verbalize answers to your partner’s questions. Familiarity with the subject matter can be very dangerous when taking a multiple-choice exam under stress. If the correct answer comes out of your mouth when being questioned, you know that you have mastered the material. If your response is not clearly correct, practice and polish until there can be no confusion that you understand the material as evidenced by verbally answering questions correctly.
- Do not delay taking your exam for months following the review course. Rather, plan a specific time frame for studying and take your exam as soon as you possibly feel confident.

We are very pleased to have the opportunity to serve you and hope you enjoy the educational experience we have planned. Thank you for choosing us as your certification review/clinical update continuing education company. We wish you the most success!

With kindest regards,

Thomas W. Barkley, Jr., PhD, ACNP-BC, FAANP  
President

Notice

Family nursing and the practice of family nurse practitioners is an ever-changing field. Standard safety precautions must be followed, but as new research and clinical experience broaden our knowledge, changes in treatment and drug therapy may become necessary or appropriate. Readers are advised to check the most current product information provided by the manufacturer of each drug to be administered to verify the recommended dose, the method and duration of administration and contraindications. It is the responsibility of the licensed prescriber, relying on expertise and knowledge of the patient, to determine dosages and the best treatment for each individual patient. Neither Barkley & Associates nor any contributing authors assume any responsibility for any injury and/or damage to persons or property arising from this publication.

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**FAMILY NURSE PRACTITIONER**

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**PEDIATRIC PRIMARY CARE NURSE PRACTITIONER**  
**CERTIFICATION REVIEW/CLINICAL UPDATE CONTINUING EDUCATION COURSE**

**GROWTH AND DEVELOPMENT**

1. Learning Objectives
  - a. Describe the multiple domains of growth and development
  - b. Articulate major theories of growth and development
  - c. Discuss major growth and development landmarks from birth to adolescence
  - d. Review health promotion principles across the various developmental stages
    - i. Describe *expected developmental* progression for pediatric lifespan
    - ii. Discuss *anticipatory guidance* measures for children at various developmental stages
    - iii. Identify developmental warning signs *or* **RED FLAGS**
2. Domains of Growth and Development
  - a. Three primary domains:
    - i. Physical domain
    - ii. Cognitive domain
    - iii. Psychosocial domain
  - b. Disturbances of any of these may alter growth & development
3. Guidelines: The American Academy of Pediatrics' (AAP) *Bright Futures: Guidelines of Health Supervision of Infants, Children, and Adolescents*

**The Physical Domain**

1. Physical growth occurs in an orderly, predictable sequence; direction of growth as follows:
  - a. *Cephalo*→ *Caudal*
  - b. *Proximal*→ *Distal*
2. Individual variability, genetic characteristics, ethnicities, and cultural practices all influence physical development
3. Sequential measurements are important

**Nutritional Factors**

1. Caloric requirements vary according to age
  - a. Birth to 6 months: 120 kcal/kg/day
  - b. Seven months to 1 year: 100 kcal/kg/day
  - c. Two to 10 years: 100 to 70 kcal/kg/day
  - d. Adolescents: 45 kcal/kg/day
2. Breast feeding
  - a. Is the perfect food for humans; cannot be duplicated
  - b. Decreases illness in infants
  - c. Maternal antibodies are transferred to infants
  - d. Decreased gastrointestinal problems such as gastroesophageal reflux disease (GERD)

- e. Decreases allergies as breast milk contains anti-inflammatory agents to decrease atopy; fewer allergies in children who are breastfed
  - f. Breastfeeding during painful procedures provides analgesia
  - g. The longer the mother breastfeeds, the less chance of the child to be overweight independent of education and socioeconomic status
3. Exclusive breast feeding for six months
- a. Feed on demand
  - b. Adequate nutrition confirmed by weight gain
    - i. 30 g/day (1 oz/day) for the first three months
    - ii. Gain of 15 to 20 g/day during subsequent 3 months
  - c. Vitamin Supplementation
    - i. Vitamin D supplements [400 International Units (IU) per day] at 2 months of age to adolescence
    - ii. Vitamin B12 for breastfeeding mothers who are strict vegetarians (neurological abnormalities)
  - d. Iron
    - i. For exclusively breast-fed infants: Approximately 1 mg/kg/day of iron is recommended after 6 months of age
    - ii. Bottle feeding should contain iron supplementation
    - iii. Ideally, the iron should come from fortified cereals
    - iv. Elemental iron supplements can be given if iron intake from diet not adequate
  - e. Fluoride supplements only when local water supply is deficient (less than 0.3 parts per million/ppm)
    - i. Supplementation is not needed for the first 6 months of life
4. Weight gain progression
- a. Rapid decelerating growth followed by consistent growth
    - i. Initial 10% loss
    - ii. Regained within 7 to 14 days
    - iii. Doubles by 5 months of age
    - iv. Triples by 1 year of age
    - v. Quadruples by 2 years of age
    - vi. Three-year-olds through school-age; gain 2.5 inches annually
    - vii. School-age children gain five to seven pounds annually



5. Tooth Eruption
- a. Mandibular, then Maxillary, Incisors, Cuspids, Molars (Come Little Children Munch Meat)

<i>Primary Teeth</i>	<i>Age of Eruption</i>	<i>Permanent Teeth</i>	<i>Age of Eruption</i>
<b>Central Incisor</b>	6 to 7.5 mos.	<b>Central Incisor</b>	6 to 8 years
<b>Lateral Incisor</b>	7 to 9 mos.	<b>Lateral Incisor</b>	7 to 9 years
<b>Cuspid</b>	16 to 18 mos.	<b>Cuspid</b>	9 to 12 years
<b>First Molar</b>	12 to 14 mos.	<b>First Bicuspid</b>	10 to 12 years
<b>Second Molar</b>	20 to 24 mos.	<b>Second Bicuspid</b>	10 to 12 years
		<b>First Molar</b>	6 to 7 years
		<b>Second Molar</b>	11 to 13 years

### Cognitive Domain

Jean Piaget = primary theorist

1. Sensorimotor stage: Birth to 2 years
  - a. Reflexes: Inborn
  - b. Adapts inborn reflexes to the environment
  - c. Object permanence
  - d. Sensory abilities improve; becomes increasingly aware of environment
  - e. Trial and error learning
  - f. Simple problem-solving
2. Preoperational/Preconceptual stage: 2 to 4 years
  - a. Can focus on a single aspect of a situation
  - b. No cause-and-effect reasoning
  - c. Egocentrism
  - d. Development of intuitive thought
  - e. Difficulty distinguishing fact from fantasy (magical thinking)
3. Intuitive/Preoperational thinking: 4 to 7 years
  - a. Beginning of causation
4. Concrete thinking: 7 to 11 years
  - a. Capable of logical thought
  - b. Logical operations
5. Formal operational thought: 11 to 15 years
  - a. Ability to abstract
  - b. Capable of complex problem solving
  - c. Reality-based
  - d. Logical conclusions

## Psychosocial Domain

### Erik Erikson = Primary Theorist

Characterized by major tasks or stages across the lifespan

1. Stages
  - a. Infancy (birth to 1 year): Trust vs. mistrust
  - b. Toddler (1 to 3 years): Autonomy vs. shame and doubt
  - c. Preschool (3 to 6 years): Initiative vs. guilt
  - d. School age (6 to 12 years): Industry vs. inferiority
  - e. Adolescence (12 to 18 years): Identity vs. role confusion
2. Successful psychosocial development requires successful resolutions of these developmental tasks

### Sigmund Freud = Psychosexual Theorist

1. Three components or personalities are developed (or not) by experiences in particular stages of development
  - a. Id: Principle of pleasure
  - b. Ego: Principle of reality/self-interest
  - c. Superego: Principle of morality or conscience
2. Stages of psychosexual development
  - a. Infancy: Oral stage
    - i. Birth to 6 months: Orally passive (development of the id; biological pleasure principle)
    - ii. Seven to 18 months: Orally aggressive (teething); oral satisfaction of needs by mother decreases tension
  - b. Toddler (1.5 to 3 years): Anal stage
  - c. Preschool (3 to 6 years): Phallic stage (love of opposite sex, Oedipal complex); ego development
  - d. School age (6 to 12 years): Latency stage (sexual drive repressed, socialization occurs, super ego and morality development)
  - e. Adolescence (12 to 18 years): Genital stage

## Growth and Development Landmarks

Individual stages of growth and development with a comprehensive outline of landmarks follow in the subsequent sections.

1. Assessment of landmarks should be determined using corrected age for premature infants; this is especially true when performing the Denver Developmental Screening Test, second edition (Denver II) assessment
2. Corrected gestational age (CGA) – adjustment of developmental expectations for premature infants through the age of 2 years