N433 Focus Sheet 1, Part 1- Fall 2019

Developmental Chart- Infant through Preschool

RKC Ch 25, 26, & 27 and ATI Ch 3, 4, & 5 and Vital sign variation handout from clinical packet

	Newborn to 2 months	Infant – 4 months	Infant – 6 months	Infant – 8 months	Infant – 10 months	Infant – 1 year	Toddler – 15 months	Toddler – 2 years	Preschool – 3 years	Preschool – 4 years	Preschool – 5 years
Vital Signs T P R B/P	**HR:** 110-160bpm (the first few minutes after birth) but decreases to 120-130bpm **RR:** 30-60 **T:** 97.9-99.7F(36.6-37.6C) **BP:** 50-75(systolic), 30-45 (diastolic)	**HR:** 100-160bpm **RR:** 30-60 **T:** 97.9-99.7F(36.6-37.6C) **BP:** 65-90 (systolic), 45-65 (diastolic)	**HR:** 100-160bpm **RR:** 30-60 **T:** 97.9-99.7F(36.6-37.6C) **BP:** 65-90 (systolic), 45-65 (diastolic)	**HR:** 100-160bpm **RR:** 24-30 **T:** 97.9-99.7F(36.6-37.6C) **BP:** 80-100(systolic), 55-65 (diastolic)	**HR:** 100-160bpm **RR:** 24-30 **T:** 97.9-99.7F(36.6-37.6C) **BP:** 80-100(systolic), 55-65 (diastolic)	**HR:** 100-160 bpm **RR:** 20-30 **T:** 97.9-99.7F(36.6-37.6C) **BP:** 100/50	**HR:** 70-120bpm **RR:** 20-30 **T:** 98.6F (range is 97.4-99.6F) **BP:** 90-110(systolic), 55-75 (diastolic)	**HR:** 70-120 bpm **RR:** 20-30 **T:** 98.6F (range is 97.4-99.6F) **BP:** 90-110 (systolic), 55-75 (diastolic)	**HR:** 70-120bpm **RR:** 20-30 **T:** 98.6F (range is 97.4-99.6F) **BP:** 90-110(systolic), 55-75 (diastolic)	**HR:** 70-120bpm **RR:** 20-30 **T:** 98.6F (range is 97.4-99.6F) **BP:** 90-110(systolic), 55-75 (diastolic)	**HR:** 70-120bpm **RR:** 20-30 **T:** 98.6F (range is 97.4-99.6F) **BP:** 90-110(systolic), 55-75 (diastolic)
Weight	2,500-4,000g (5.5-8.5lb)	5.7-7.0kg (12.6-15.4lb) boys 5.2-6.4kg (11.5-14.1lb) girls	7.6-8.2kg (16.8-18lb) boys 7.0-7.5kg (15.4-16.5lb) girls	8.6-9.1kg (19-20.1lb) boys 7.9-8.3kg (17.4-18.3lb) girls	9.5-9.8kg (20.9-21.6lb) boys 8.7-9.0kg (19.2-19.8lb) girls	10.2-10.5kg (22.5-23.1lb) boys 9.4-9.7kg(20.7-21.4lb)	10.7-10.9kg (23.7-24.1lb) boys 9.9-10.2kg (22-22.5lb) girls	11.2-12.5kg (24.6-27.5lb) boys 10.4-12kg (23-26	14.5kg (32lb)	16.5kg (36.5lb)	18.5kg (41lb)

						girls		.5lb) girls			
Height (Length)	44-55cm (17-21in.)	61.4-64cm (24.2-25.2in) boys 59.9-62.2cm (23.6-24.5in) girls	66-67.5cm (26-26.6in) boys 64.2-65.7cm (25.3-25.9in) girls	69-70.6cm (27.2-27.8in) boys 67.3-68.8cm (26.5-27.1in) girls	71.8-73.1cm (28.3-28.8in) boys 70.1-71.6cm (27.6-28.1in) girls	74.4-75.7cm (29.3-29.8in) boys 72.8-74.1cm (28.7-29.2in) girls	76.9-79.2cm (30.3-31.2in) boys 75.1-77.7cm (29.6-30.6in) girls	80.2-86.8cm (31.6-34.2in) boys 78.4-85.5cm (30.9-33.7in) girls	95cm (37.5in)	103cm (40.5in)	110cm (43.5in)
Neurologic	Primitive reflexes present at birth include Moro, root, suck, asymmetric tonic neck, plantar and palmar grasp, step, and Babinski	Moro reflex disappears by 4 months Palmar grasp reflex disappears	By 6 months, the infant's brain weighs half that of the adult brain	Brain continues to grow and develop	The fontal may close as early as 9 months. Plantar grasp disappears by 9 months	By 12 months, the brain weighs 2 ½ times what it did at birth	Brain growth continues through toddlerhood and head circumference reaches about 90% of its adult size	Myelination of the spinal cord and nerves continues for the first 2 years	Myelination of the spinal cord allows for bowel and bladder control to be complete in most children by 3	The brain continues to grow/myelination continues	Brain development is still continuing along with the growth of myelination

Respiratory	Respirations are 30-60. Breathing is irregular with periodic pauses	Breathing is still irregular but begins to regulate itself as the infant grows	Breathing becomes more regular and rhythmic	At a higher risk for respiratory compromise There is a lack of IgA in the mucosal lining which can contribute to the frequent infections that occur	At a higher risk for respiratory compromise There is a lack of IgA in the mucosal lining which can contribute to the frequent infections that occur	Respirations slow to 20-30 by this time	Respiratory structures continue to grow	Respiratory structures continue to grow	Respiratory structures continue to grow in size, number of alveoli continues to increase (3-7yrs)	Respiratory structures continue to grow in size, number of alveoli continues to increase (3-7yrs)	Respiratory structures continue to grow in size, number of alveoli continues to increase (3-7yrs)
Cardiovascular	The peripheral capillaries are closer to the surface of the skin making the newborn more susceptible to heat loss HR is fast, BP is low	Thermoregulation begins to occur over the first year of life HR begins to slow down	Thermoregulation begins to occur over the first year of life HR slows, BP increases	Thermoregulation begins to occur over the first year of life BP continues to steadily increase	Thermoregulation begins to occur over the first year of life	HR slows to 100bpm BP becomes 100/50	HR decreases, BP increases Blood vessels are closer to the skin surface still and can be easily compressed if	HR decreases, BP increases Blood vessels are closer to the skin surface still and can be	HR decrease, BP increases slightly (may be able to hear an innocent murmur)	HR decrease, BP increases slightly (may be able to hear an innocent murmur)	HR decrease, BP increases slightly (may be able to hear an innocent murmur)

							palpated	easily compressed if palpated			
Gastrointestinal	An infant is born with one or more teeth or develops teeth if the first 28 days of life The stomach holds about ½ to 1 oz at birth	Small amounts of saliva are present for the first 3 months	First primary teeth begin to erupt	More teeth begin to erupt	By one year, the stomach can accommodate three full meals and several snacks per day	Stool passage slowly begins to decrease as the infant grows and matures	Stomach grows in size allowing three regular meals/day Stool passage decreases in frequency to one or more/day Stool may change color depending on diet	Stomach grows in size allowing three regular meals/day Stool passage decreases in frequency to one or more/day Stool may change color depending on diet Bowel control	Small intestine continues to grow in length Stool passage occurs once or twice/day	By 4, generally has adequate bowel control	By 5, has full bowel control

								is achieved at the end of the toddler period			
Genitourinary	Extracellular fluid accounts for about 35% of body weight and intracellular fluid accounts for 40% making them susceptible to dehydration The infant will urinate frequently and have a low specific gravity	Extracellular fluid accounts for about 35% of body weight and intracellular fluid accounts for 40% making them susceptible to dehydration The infant will urinate frequently and have a low specific gravity	Extracellular fluid accounts for about 35% of body weight and intracellular fluid accounts for 40% making them susceptible to dehydration The infant will urinate frequently and have a low specific gravity	Extracellular fluid accounts for about 35% of body weight and intracellular fluid accounts for 40% making them susceptible to dehydration The infant will urinate frequently and have a low specific gravity	Extracellular fluid accounts for about 35% of body weight and intracellular fluid accounts for 40% making them susceptible to dehydration The infant will urinate frequently and have a low specific gravity	Extracellular fluid accounts for about 35% of body weight and intracellular fluid accounts for 40% making them susceptible to dehydration The infant will urinate frequently and	Bladder and kidney function reach adult levels Bladder capacity increases Urine output should be 1mL/kg/hr Urethra remains short making them susceptible to UTIs	By the age of 2, the GFR has reached full maturity and can begin to potty train Bladder capacity increases Urine output should be 1mL/kg/hr Urethra	Urethra is still short (risk of UTIs)	Urethra is still short (risk of UTIs)	By 5, bladder control is usually present but an accident may occur on occasion especially in stressful situation

						have a low specific gravity		remains short making them susceptible to UTIs			

Musculoskeletal	Muscles are weak and there is a high risk for injury	Muscles are weak and there is a high risk for injury	Muscles begin to mature and strength as the infant becomes able to move around more independently	Muscle and bones continue to grow and strength	Muscle and bones continue to grow and strength as the infants develops	Muscle and bones continue to grow and strength as the infant grows and develops	Bones increase in length, muscle mature and become stronger	Abdominal musculature is weak in early toddlerhood resulting in a pot-bellied appearance. Toddlers have a sway back and potbelly	Around 3, the musculature strengths and the abdomen is flatter in appearance	Bones grow in length, muscles strength and mature	Bones and muscles continue to grow and strength. However, it is still not fully mature (higher risk of injury)

Gross Motor	Demonstrates head lag (1st month) Lifts head off mattress when prone (2nd month)	Raises head and shoulders off mattress when prone and only has a slight head lag (3 months) Rolls from back to side (4 months)	Rolls from front to back (5 months) Rolls from back to front (6 months)	Bears full weight on feet and sits, leaning forward on both hands (7 months) Sits unsupported (8 months)	Pulls to a standing position and creeps on hands and knees instead of crawling (9 months) Changes from a prone to a sitting position (10 months)	Cruises or walks while holding onto something and walks with one hand held (11 months) Sits down from a standing position without assistance (12 months)	Walks without help and creeps up stairs (15 months)	Runs clumsily; falls often, throws a ball overhand, jumps in place with both feet, pulls and pushes toys (18 months) Walks up and down stairs by placing both feet on each step (2 years)	Jumps across the floor and off a chair or step using both feet, stands on one foot momentarily, and takes a few steps on tiptoe (2.5 years) Rides a triple, jumps off bottom step, and stands on one foot for a few seconds (3 years)	Skips and hops on one foot, throws ball overhead, catches ball reliably (4 years)	Jumps rope, walks backward with heel to toe, throws and catches a ball with ease (5 years)
Fine Motor	Has a strong grasp reflex (1st month) Holds hands	No longer has a grasp reflex and keeps hands	Uses palmar grasp dominantly (5 months) Holds	Moves objects from hand to hand (7 month	Has a crude pincer grasp and dominant hand	Places objects into a container and neat	Uses a cup well and builds a tower of two blocks	Manages a spoon without rotation, turns pages in a	Draws circles, has good hang-finger coordination (2.5 years)	Copying figures on paper and dressing independently (4 years)	Copying figures on paper and dressing independently still(5 years)

	in an open position, grasp reflex fading (2nd month)	loosely open (3 months) Grasps objects with both hands (4 months)	bottle (6 months)	s) Begins using pincer grasp (8 months)	preference evident (9 months) Grasps rattle by its handle (10 months)	pincer grasp (11 months) Tries to build a two-block tower without success and can turn pages in a book (12 months)	(15 months)	book two or three at a time, builds a tower of three or four blocks (18 months) Builds a tower of six or seven blocks, turns pages of book one at a time (2 years)			
Sensory	Hearing is mature at birth. Touch, taste, and small mature at birth (prefer	Touch, taste, and small mature at birth (prefer sweet) Newborn can see 8-12	Color vision develops between 4-6months	Full color vision develops (by 7 months) along with the ability to	They prefer soft sensations to coarse sensations	They are able to understand their caregiver's feelings just by the way the	They use all of their senses to explore Hearing should be at an adult level	Vision continues to progress and should be 20/50 to 20/40 in both eyes Taste	Hearing should remain intact throughout the preschool years Sense of smell and touch continue to develop	Sense of smell and touch continue to develop Visual acuity continues to progress	Sense of smell and touch continue to develop By 5, the visual acuity should be 20/40 or 20/30 Color vision is

	sweet) Newborn can see 8-12 inches (20-30 cm)	inches (20-30 cm)		track objects		caregiver touches them	Will still try new food if there is a similar smell	discrimination is not fully developed but may show preferences			fully intact
Communication/Language	Crying for at least 1 to 1 ½ hr. each day until 3 weeks At 6 weeks, it builds up to 2-4hr a day	Crying decreases by 12 weeks Vocalizes with cooing noses (3-4 months)	Make vowel sounds	Babbles, laughs, and blows bubbles	Imitates some sounds Response to simple verbal commands	Imitates some sounds Can say simple words “mama” or “dada” Says three to five words by the end of the first year	Using one-word sentences or holophrases	Using multiword sentences by combining two or three words	Combining several words to create simple sentences using grammatical rules	Speak in sentences of three to four words between the ages of 3-4	Speak in sentences of four to five words between the ages of 4-5 Vocabulary increases to more than 2,100 words by the end of the fifth year
Emotional/Social	Spend the majority of their time sleeping	They are ready to begin socializing at this	They will begin to mimic caregiver expres	They may enjoy socially interactive games	They respond well when the caregiver is social	Separation anxiety becomes a struggle –	Struggle with separation and individuation. They will	Begin to identify the boundaries between	They have very strong emotions	Developing a sense of identity and begin to recognize gender	May begin to show interest in basic sexuality

		age Can interact with caregiver by smiling widely	sions or movements	such as patty-cake and peek-a-boo	with them	they become distressed when their parent leaves but can calm down and be alright with their current caregiver after parent leaves	begin to display egocentrism	themselves and their parents There is a power struggle with this age group			
Erickson	Trust v. mistrust – trust is essential in the first year. The primary caregiver has the	Trust v. mistrust – trust is essential in the first year. The primary caregiver has	Trust v. mistrust – trust is essential in the first year. The primary caregiver has the most	Trust v. mistrust – trust is essential in the first year. The primary caregiver has	Trust v. mistrust – trust is essential in the first year. The primary caregiver has	Trust v. mistrust – trust is essential in the first year. The primary caregiver has	Autonomy v. shame and doubt – they begin to show their independence	Autonomy v. shame and doubt – they begin to show their independence	Initiative v. guilt – very inquisitive and enthusiastic to learn new things	Initiative v. guilt - very inquisitive and enthusiastic to learn new things	Initiative v. guilt - very inquisitive and enthusiastic to learn new things

	most impact	the most impact	impact	the most impact	the most impact	the most impact					
Piaget	Sensorimotor stage – learn about themselves and the world through their developing sensory and motor capabilities	Sensorimotor stage – learn about themselves and the world through their developing sensory and motor capabilities	Sensorimotor stage – object permanence begins to develop at this stage	Sensorimotor stage – object permanence is fully established or solidified by 8 months	Sensorimotor stage – development of object permanence is crucial for the development of self-image	Sensorimotor stage – infant knows they are their own person, can recognize themselves in a mirror, and will objects in different ways	Preoperational stage – begin to experiment with behavior to see what happens	Preoperational stage – begin to experiment with behavior to see what happens	Preoperational phase – experience preoperational thought, magical thinking, and may have imaginary friends (helpful for social/communication skills)	Preoperational phage - experience preoperational thought, magical thinking, and may have imaginary friends (helpful for social/communication skills)	Preoperational phase - experience preoperational thought, magical thinking, and may have imaginary friends (helpful for social/communication skills)

References:

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