

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 (See normal/abnormals PPT)	T: 37.5 C (99.5 F) P 120-140 R 30-60 B/P 60/40	T: 37.5 C (99.5 F) P: 70-150 R: 30-35 B/P: 65-78/41-52	T: 37.5 C (99.5 F) P: 70-150 R: 30-35 B/P: 65-78/41-52	T: 37.5 C (99.5 F) P: 70-150 R: 30-35 B/P: 65-78/41-52	T: 37.5 C (99.5 F) P: 70-150 R: 30-35 B/P: 65-78/41-52	T: 37.7 C (99.9 F) P 100 R 20-30 B/P 100/50 B/P (G): 83-114/38-67 B/P (B): 80-114/34-66	T: 37.7 C (99.9 F) P 70-120 R 20-30 B/P (G): 83-114/38-67 B/P (B): 80-114/34-66	T: 37.7 C (99.9 F) P 70-120 R 20-30 B/P (G): 83-114/38-67 B/P (B): 80-114/34-66	T: 37.2 C (99.0 F) P 70-120 R 20-30 B/P (G): 86-117/47-76 B/P (B): 86-120/44-75	T: 37.2 C (99.0 F) P 65-110 R 20-25 B/P (B): 86-120/44-75	T: 37.0 C (98.6 F) P 65-110 R 20-25 B/P (B): 86-120/44-75
Weight	2700-4000 grams, 6-9lb Double birth	WT gain of about 1.5lb per	Double birth weight	Double birth weight	Weight between 2X & 3X	Birth weight triplets	Girls avg 21.2 lb and boys avg	4x Birth Weight. Avg gain is 3-5	14.5 kg (32 lb)	16.5 kg (36.5 lb)	18.5 kg (41 lb)

	weight 6-8 months. NB lose up to 10% of birth weight at 3-4 days of age *BW is regained by 10-14 day of life depending on feeding method	month during the first 5 months of life			birth weight		22.7 lbs by 15 months.	lbs/year			
Height (Length)	31-35 cm Grows 2.5 cm until 6 months	Ht increase of about 1 in per month first 6 months	Ht increase of about 1 in per month first 6 months	Ht increases by ½ inch	Ht increases by ½ inch	Increased by 50%	Avg is 30.5 inches for girls. Avg is 31.2 inch in boys	Reached half adult ht by 2. Ht increases avg of 3 in per year	95 cm (37.5 in)	103 cm (40.5 in)	110 cm (43.5 in)

Neurologic	Single vowel sounds by 2 mo.	Cooing @ 3-4 months. Laugh and squeal by 4 mo.	Brain weighs half of an adult size by 4 months.	Color vision by 7 months & ability to track objects	Understand "no". Can perform simple commands	3-5 words by 1 yr	Myelination of brain and spinal cord continues to progress	Brain is 90% adult size by age 2	Myelination of spinal cord allows for bowel and bladder control complete by age 3	Myelination completes allows for bowel & bladder control	Myelination complete allows for bowel & bladder control
Respiratory	RR 30-60 breaths/min, breathes irregularly, periodically pauses	Nasal passages narrow, trachea and chest wall are more compliant	Bronchi and bronchioles are shorter and narrower	Larynx is more funnel shaped	Tongue becomes larger	Significantly fewer alveoli	Trachea and lower airways continue to grow	Alveoli increase in number	Respiratory structures continue to grow in size, number of alveoli continue to increase.	Same as 3 year old. Alveoli will reach adult number at about 7 years of age.	Same as 3 year old. Alveoli will reach adult number at about 7 years of age.
Cardiovascular	Pulse is 120-140 BPM, very susceptible	Blood pressure steadily increases	CV system begins to mature	Thermoregulation becomes	Capillaries constrict in response	The heart doubles in size.	Blood vessels are close to skin	HR decreases, BP increases. Blood volume increases	HR decreases and BP increases during preschool	HR decreases and BP increases during preschool	HR decreases and BP increases during

	to heat lost			more effective	expand to a cold environment and dilate in response to heat		surface and compress easily when palpated.		school years. An innocent heart murmur may be heard on auscultation.	years. An innocent heart murmur may be heard on auscultation.	preschool years. An innocent heart murmur may be heard on auscultation.
Gastrointestinal	Natal teeth or neonatal teeth develop (only in some), first stools = meconium = dark green to black and sticky	Ability to conjugate bilirubin and secrete bile is present	Gums may start to emerge and swell d/t primary teeth appearing	Primary teeth start to develop	Amylase & lipase reach adult levels allowing digestion of carbs and fats	Stomach enlarges allowing three full meals and several snacks per day	4-8 primary teeth have emerged	Stomach increases in size, small intestines grow, less stool passage	Small intestine continues to grow in length.	A 4 year old generally has adequate bowel sounds.	The preschooler should have 20 deciduous teeth present.

Genitourinary	Extracellular fluid accounts for 35% of body weight & intracellular fluid accounts for 40%	More susceptible to dehydration	Frequent urination → relatively low specific gravity	Bladder and kidney reach adult function, urethra remains short, UTIs still a problem	Bladder capacity increases → can hold it for a longer period of time	Potty training should be successful by this age → bowel and bladder control is complete	Bowel and bladder control complete				
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Musculoskeletal	-Spines should be w/o dimples or tufts of hair. They should be midline overall C-shaped lateral curve.	Moro reflex disappears by the end of 4 months	Birth Weight doubled by 4-6 months	From 6-12 months the head circumference increases an average of 0.2 in monthly	6-8 teeth by end of first year	Birth weight is tripled by the end of 1 year	Muscles mature, sway back and potbelly appearance until age 3. Fontanelles close at 18 mo.	Head circumference and chest circumference are usually equal by 1-2 years	Spine appears more erect than toddlers.	Spine appears more erect than toddlers.
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Gross Motor	Head lag, lifts head up when prone	Raises head and shoulders when prone	Rolls from front to back and back to front	Bears full weight on feet, sits tripod position, sits unsupported at 8 months crawling	One year Pulls to standing position, creeps on hands and knees, changing from prone to sitting, walks holding onto something, sit to stand without help	15 mo: Walks w/o help; Creeps up stairs	2 yr: Walks up and down stairs by placing both feet on each step	3 yr: Ride a tricycle; Jumps off bottom step; Stands on one foot for a few seconds	4 yr: Skips + hops on one foot; Throws ball over head; Catches ball reliably	5 yr: Jumps rope; Walks backward wheel to toe; Throws + catches a ball with ease
Fine Motor	Strong reflex grasp, hands in open position	Hands loosely open, grabs objects with	Palmar grasp, can hold bottle finger grasp	moves objects from hand to hand, dominant hand evident	Hold rattle, place in container, stack blocks, turn page	15 mo: Uses a cup well; Builds a tower of two	2 yr: Builds a tower of 6-7 blocks; Turns	Undress self, holds pencil, draws circles, good	Uses scissors correctly, draws circles and squares	Prints some letters, draws person with body

		both hands	part 9 mos		s	blocks	pages of books one at a time.	hand finger coordination	res, drawings on with 2-4 body parts	and 6 body parts, use utensils unsupervised, can toilet themselves
Sensory	Limited color, smell is developed, craves skin to skin touch, wants sweet flavor	Eye rods and cones, smell of food are interesting, sound association with objects	Tracks people, reaction to strong odor, touch and pull, taste flavors	Reaches for nearby food, recognizes texture, identifies direction, uses smell to decide if they like food	Depth perception, grabs objects easily, increase in smell, can recognize sounds and voices, crawls, grasp	Babinski reflex disappears	Hearing remains intact.	Hearing remains intact.	Visual acuity equal bilaterally.	Visual acuity of 20/40 or 20/30. Color vision is intact.

Communication/Language	Baby cries to communicate	Baby cries to communicate and makes noises	separation anxiety, baby starts to babble	Stranger anxiety, babbling continues	Use one word sentences	Starts to try and sound out words and sounds	Should know about 300 words	Combine several words to create sentences	3 or 4 word sentences	Should know 2100 words, sentences of 4-5 words
Emotional/Social	Feels comforted when held	Feels comforted when sung to and feeding	Interaction with a caregiver will start by smiling and gurgling	Enjoys socially interactive games such as patty cake and peek-a-boo	Focus on self	Sees oneself as separate from the parent	Independence is key. Often utilize negative responses	Gender identity by age 3	Learn how to make and keep friends	Temperament indication, exhibits fears
Erickson	Trust vs Mistrust -Attachment	Trust vs Mistrust -Separation anxiety	Trust vs Mistrust	Trust vs Mistrust	Autonomy vs Shame and Doubt	Autonomy vs Shame and Doubt	Autonomy vs Shame and Doubt	Autonomy vs Shame and Doubt	Initiative vs Guilt -Energetic learners	Initiative vs Guilt

Piaget	Sensorimotor Stage 3 wks: Cry for 1-1.5 hr/day 6wks: Cry for 2-4 hr/day -Makes single vowel sound	Sensorimotor Stage -Laughs + squeals -Vocalizes w/ cooing noises -Consonants are added	Sensorimotor Stage	Sensorimotor Stage	Sensorimotor Stage -Comprehends "no" -Obey's single commands -Object permanence	Sensorimotor Stage (transitions 19-24 mos to preoperational)	Sensorimotor/Preoperational Phase	Preoperational Phase	Preoperational Phase -Intuitive thought	Preoperational Phase
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N433 Focus sheet 1 part 2- Fall 2019

Developmental Chart-School-Age through Adolescents

RKC Ch 28 & 29 and ATI Ch 6 & 7 and Vital sign variation handout from clinical packet

	School-Age 6-8 years	School-Age 9-11 years	Adolescents 12-14 years	Adolescents 15-18 years
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Vital Signs (See normal/abnormals PPT)				
T P R B/P	T 98.3 F P 60-100 R 14-22 B/P 91-122/59-88 (G) 91-125/53-83 (B)	T 98.1 F P 60-100 R 14-22 B/P 98-129/59-88 (G) 97-130/58-90 (B)	T 97.8 F P 55-95 R 12-18 B/P 98-129/59-88 (G) 97-130/58-90 (B)	T 97.9 F P 55-95 R 12-18 B/P 108-138/64-93 (G) 111-145/63-94 (B)
Weight	Weight gain of 7 lbs per year expected 4.4-6.6 lb per year (ATI)	4.4-6.6 lb per year gain	boys= 15-65 lbs gained girls= 15-55 lbs gained	boys= 15-65 lbs gained girls= 15-55 lbs gained
Height (Length)	Increase of 2.5 inches per year expected 2 in/year (ATI)	2 in/year	boys= 4-12 inches gained girls= 2-8 inches gained	boys= 4-12 inches gained girls= 2-8 inches gained
Neurologic	Brain grows slowly, still growing in this age range.	Brain growing. Complete by time child is 10.	Brain growth continues but does not increase significantly	Neurons increase in number but growth of myelin sheath enables faster neural processing
Respiratory	Lungs continue to mature, resulting in fewer respiratory infections. Frontal sinuses developed by age 7.	RR decrease, abdominal breathing disappears, respirations become diaphragmatic, tonsils decrease in size	RR decreases and reaches 15-20 breaths/min- same as adults, resp volume and capacity increase	Growth of laryngeal cartilage, larynx, and vocal cords produce voice changes - deepening occurs in both sexes but more

				prominent in boys
Cardiovascular	BP increases. Pulse decreases. Heart grows slowly, is smaller in size than the rest of the body.	BP increases. Pulse decreases. Heart grows slowly, is smaller in size than the rest of the body.	Increase in size and strength of the heart	Systolic BP increases and heart rate decreases- blood volumes reach higher levels in boys d/t greater muscle mass
Gastrointestinal	Fewer GI upsets. Stomach capacity increases.	All 20 primary teeth are lost and replaced by 28 of 32 permanent teeth, fewer GI upsets, stomach capacity increases, caloric needs are lower	GI systems are matured by this age, liver, spleen, kidneys, and digestive tract enlarge during growth spurt but do not change in function	Last 4 molars may erupt at this stage,
Genitourinary	Bladder capacity increases. Bladder capacity of a 7 year old=9 oz.	Bladder continues to increase allowing child to experience longer periods between voiding	Sexual characteristics develop	Sexual characteristics develop
Musculoskeletal	Muscles still immature. Easily injured. Greater coordination and strength	Bones continue to ossify throughout childhood, mineralization is not complete	Female ossification may start to occur, sex steroids start to be released	Male ossification occurs later than women, shoulder, chest and hip breadth

	develops.	until maturity		increase, muscle mass and strength increase
Gross Motor	Coordination, balance, and rhythm improve	Can ride a bike, skate, swim, in constant motion, restless, better rhythm and gracefulness, participate in sports like baseball and soccer	High energy levels, physical skills are similar to adults. Endurance developed, can follow complicated instructions, speed and accuracy improves	Can play many sports and have increased coordination and balance
Fine Motor	Myelination of CNS leads to refinement of fine motor skills. Hands are steadier.	Hand eye coordination and balance improve, can write, print words, do crafts, sew, build, play instruments	Increased ability to manipulate objects, neat handwriting,	Precise hand eye coordination and finger dexterity
Sensory	Typically 20/20 vision. All senses are mature at this age.	Screening for hearing, vision, and smell are important to make sure corrections can be made in time before permanence occurs	Awkward or clumsy as they get used to longer limbs and bodies.	Boys continue to get stronger and more agile. Girls tend to level out.

Communication/Language	Language accelerates; vocabulary grows.	Vocab expands, can enjoy jokes, uses plurals and pronouns, understands metaphors, experiment with dirty language	Improved grammar and parts of speech	Vocab and communication increased, use slang
Emotional/Social	Self-esteem highly impacted at this age → peer groups play → peer pressure begins → conformity becomes evident	Develop awareness of themselves in relation to others → confidence is gained through establishing positive self concept	Peer relationships develop and become their support systems → best friend relationships are more stable and longer lasting	Parent-child relationships change to allow a greater sense of independence → view themselves according to their unique characteristics as years progress
Erickson	Industry vs Inferiority	Industry vs Inferiority	Identity vs Role Confusion	Identity vs Role Confusion
Piaget	Concrete Operational	Concrete Operational	Formal Operations	Formal Operations

