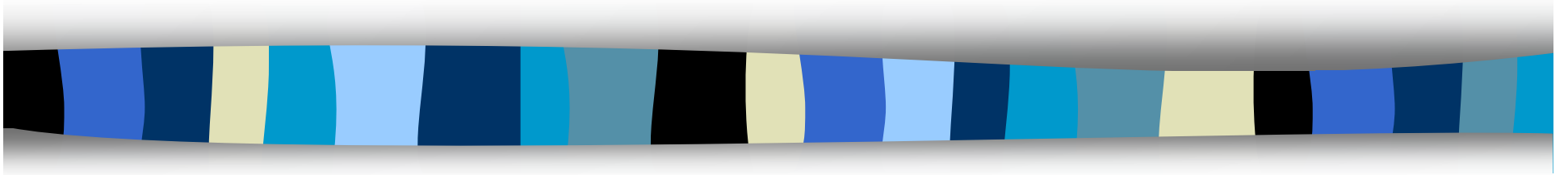
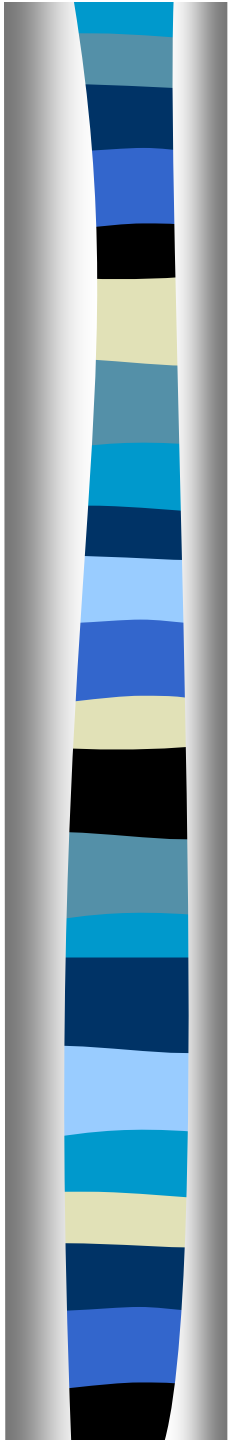


Newborn and Well Child Examinations

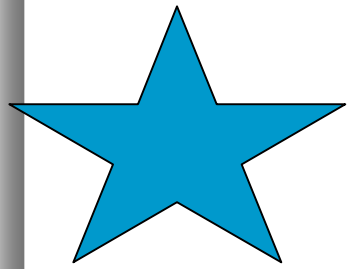


Brenda Beckett, PA-C



Newborn Assessment

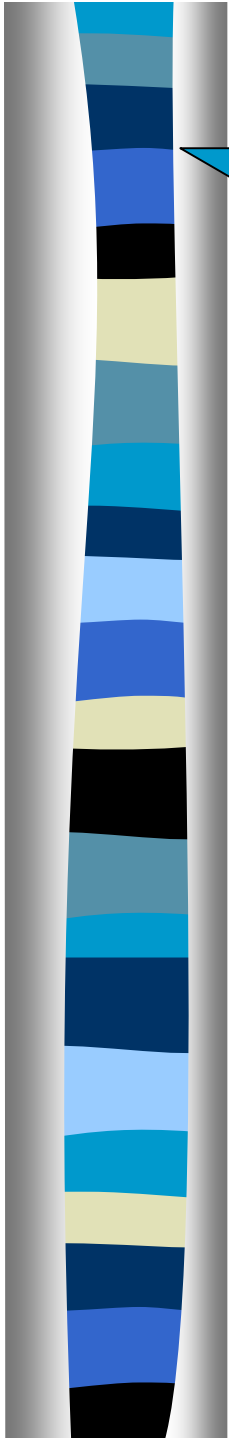
- Screening tests
- Immunizations
- Exam after birth, again at 48 to 72 hours
- Gestational age determination
- Anticipatory guidance
- Prenatal/perinatal problems or concerns
- Feedings



Newborn Assessment

Apgar: Done at 1 and 5 minutes, again at 10 minutes if low.

- 7-10 normal
- 4-7 might require some resuscitative measures
- 3 and below requires immediate resuscitation

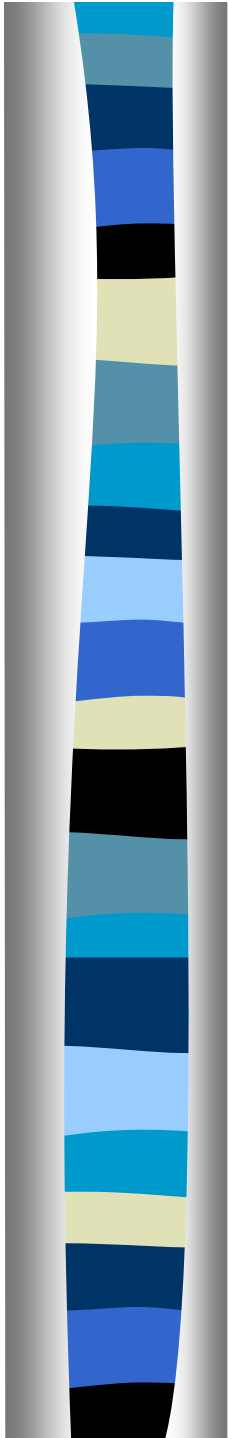


	Score of 0	Score of 1	Score of 2	Component of Acronym
Skin color	blue all over	blue at extremities body pink	no blue cyanosis body and extremities pink	Appearance
Heart rate	absent	<100	>100	Pulse
Reflex irritability	no response to stimulation	grimace/feeble cry when stimulated	sneeze/cough/pulls away when stimulated	Grimace
Muscle tone	none	Some flexion	active movement	Activity
Breathing	absent	weak or irregular	strong	Respiration



Newborn Assessment

- Screening tests:
 - Hearing
 - Metabolic/Endocrine screening
 - Other tests if needed: Hgb/Hct, Glucose, Type and Rh, DAT



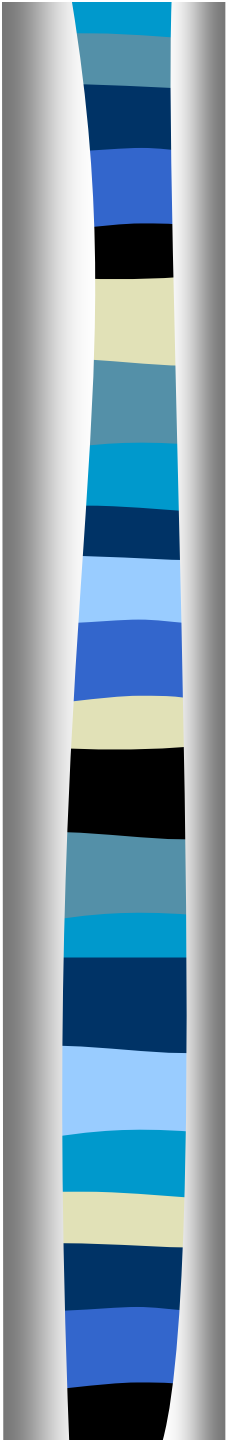
Newborn Assessment

- Immunizations:
 - Hepatitis B
- Measurements/Vital Signs:
 - Height
 - Weight
 - Head circumference
 - Temp
 - Pulse

Newborn Exam

■ GENERAL

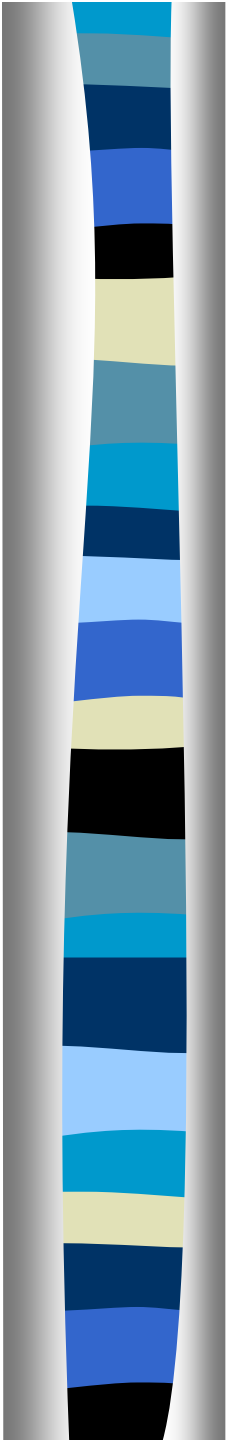
- r/o trauma
- Gestational age estimation (Ballard)
- Visible congenital anomalies



Newborn Exam

■ SKIN

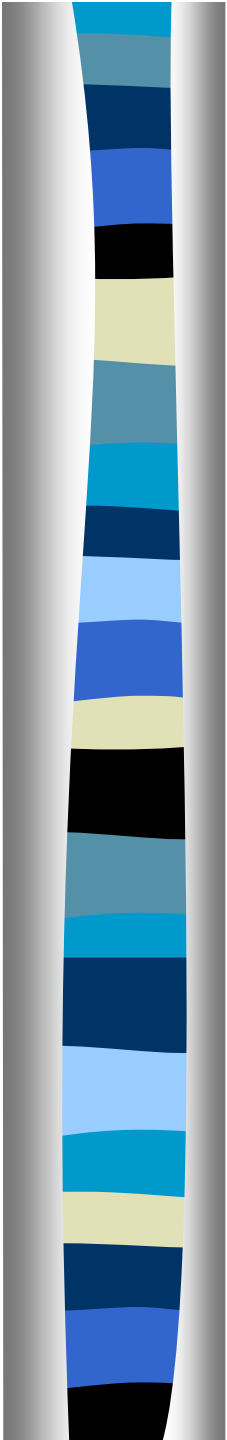
- Jaundice
- Rash
- Hair
- Birth marks
- Lanugo



Newborn Exam

■ HEAD

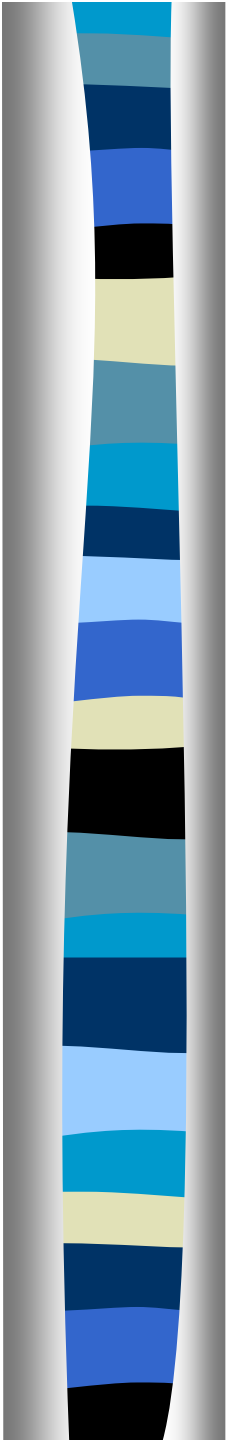
- Molding
- Fontanelles
- Caput succedaneum
- Cephalohematoma
- Epicanthal folds, wide spaced eyes, low set ears



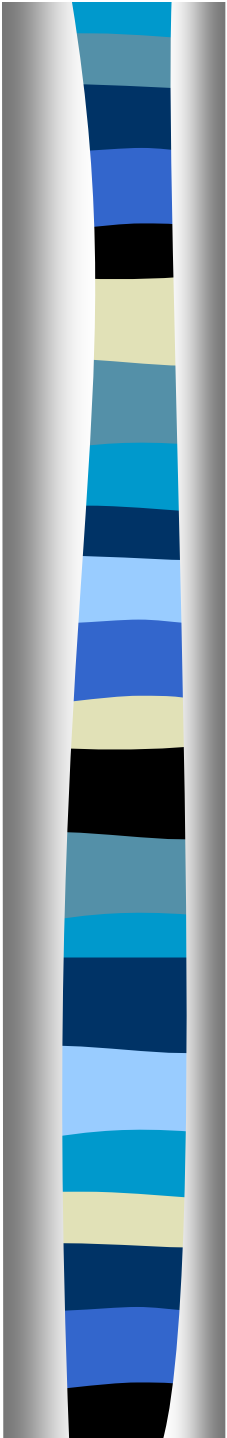
Newborn Exam

■ EYES

- Symmetry
- Cornea
- Conjunctiva
- Fundoscopic - red reflex



Newborn Exam



■ EARS

- Low set
- Hearing
- External canals
- TMs

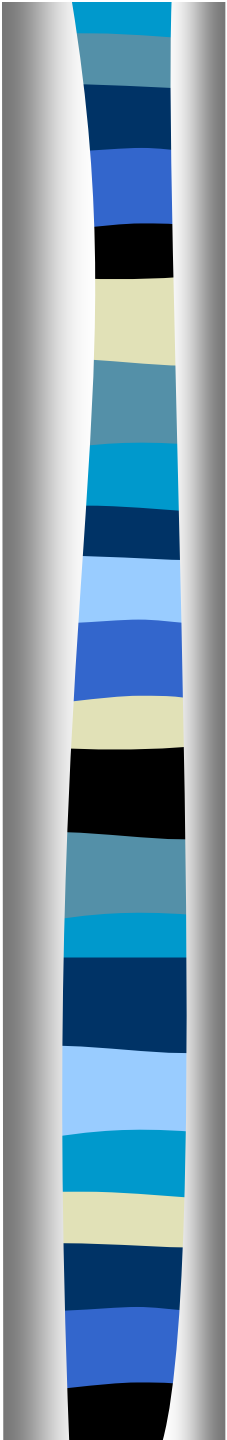
■ NOSE

- Congenitally deviated septum
- Obstruction

Newborn Exam

■ MOUTH & PHARYNX

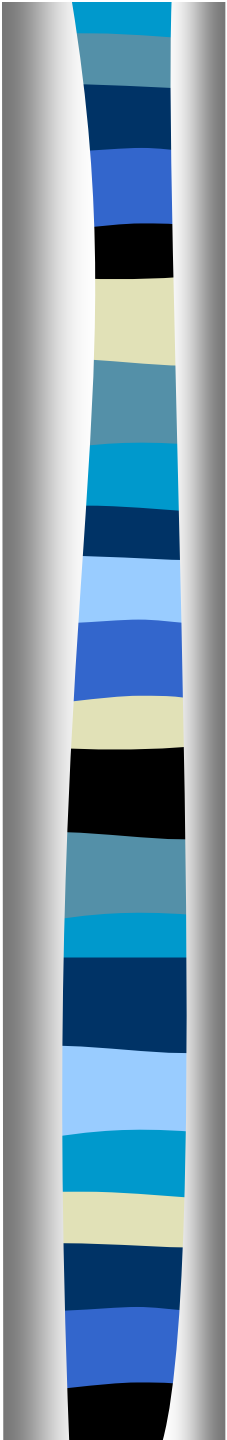
- Sucking reflex
- Gingivae
- Tongue - protuberant, thrush
- Palate



Newborn Exam

■ NECK

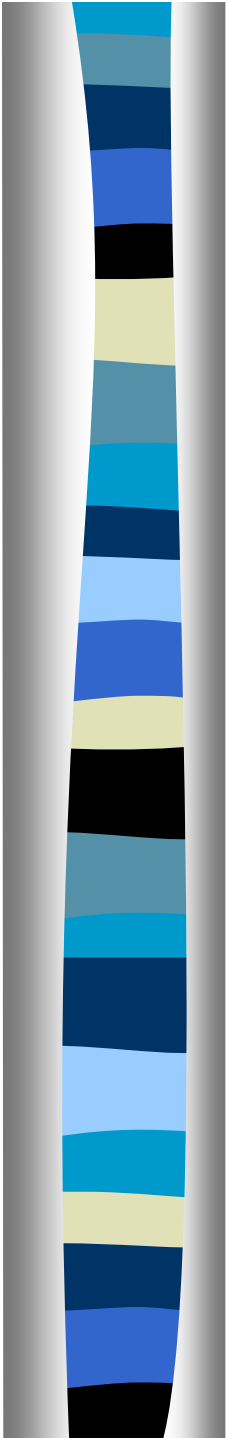
- Torticollis
- Clavicles
- Palpate for masses
- webbing



Newborn Exam

■ CHEST

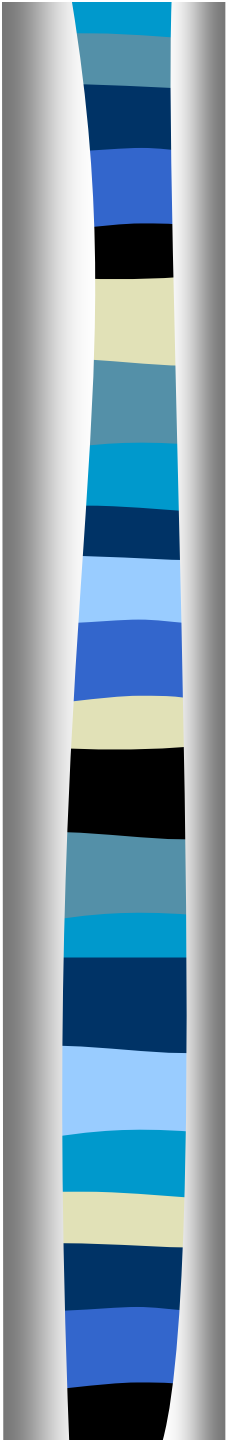
- Respiratory rate
- Pattern
- Apnea vs periodic breathing
- Grunts, retractions, nasal flaring
- Inspect for deformities
- Auscultate
- breasts



Newborn Exam

■ CARDIOVASCULAR

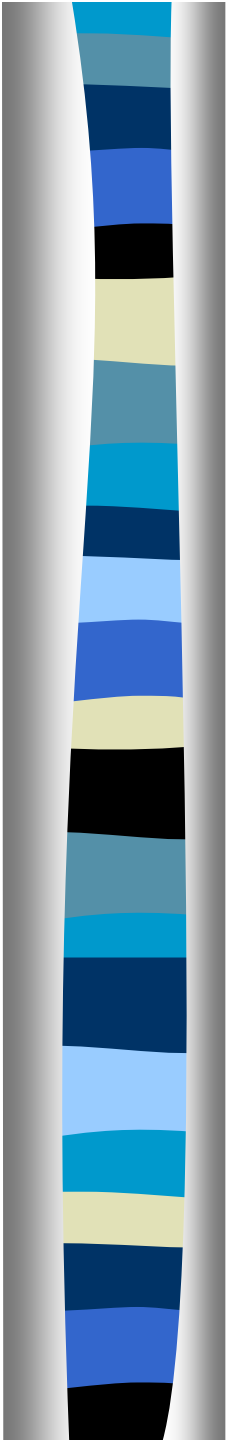
- Cyanosis
- Rate
- PMI
- Auscultate
- Pulses - brachial, femoral, bilateral



Newborn Exam

■ ABDOMEN

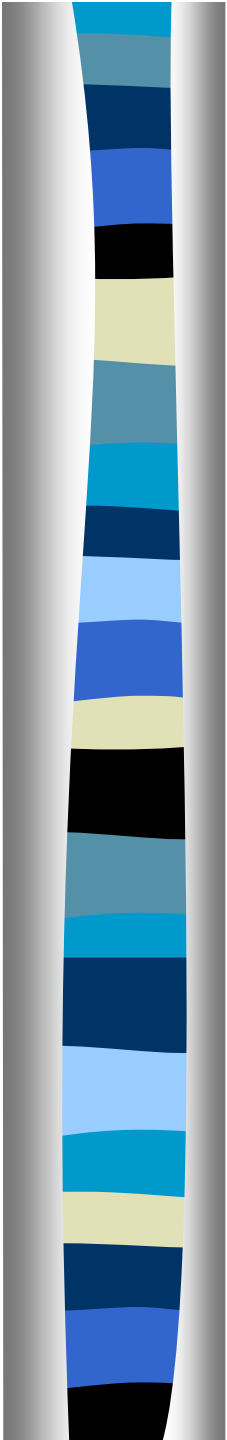
- Umbilical hernia
- Umbilical cord stump
- Auscultate
- Palpate - liver size



Newborn Exam

■ GENITALIA - male

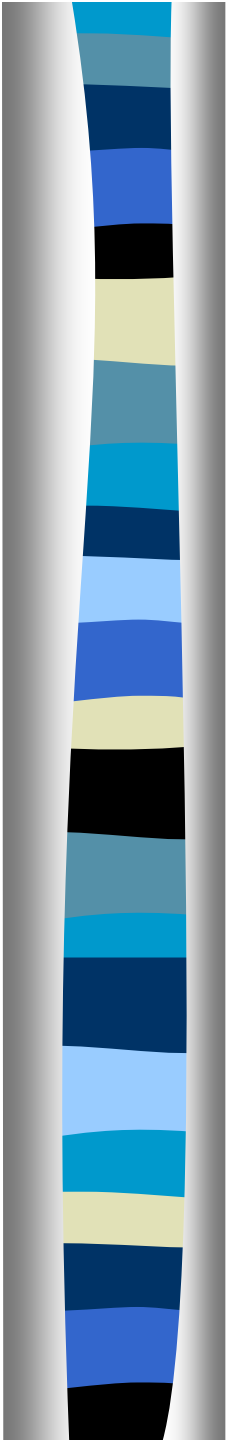
- Ambiguity
- Full term: scrotum large & rugated
- Palpate testicles (descended)
- Foreskin: adherent to glans penis
- External urethral meatus (hypospadias)



Newborn Exam

■ GENITALIA - female

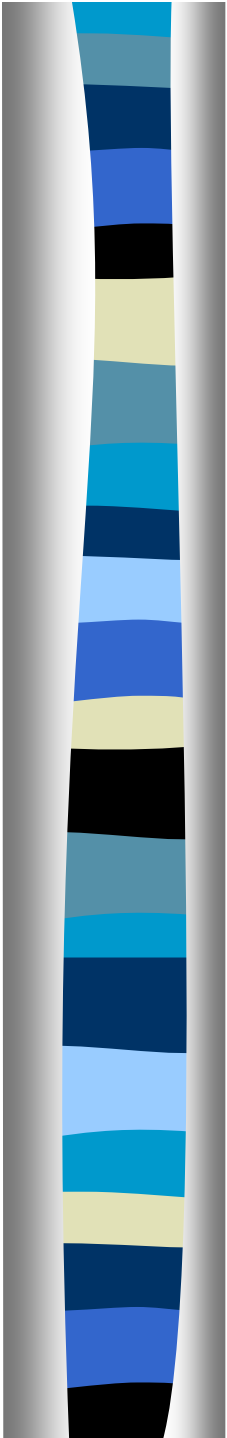
- ambiguity
- Labia majora should cover minora, clitoris
- White discharge common



Newborn Exam

■ MUSCULOSKELETAL

- Brachial palsy: flaccid and extended arm
- Fractures
- Metatarsus adductus: usually due to intrauterine position
- Talipes equinovarus (clubfoot): whole foot deviated toward midline





Newborn Exam

- **MUSCULOSKELETAL - HIPS**
 - Check for hip dysplasia
 - Leg symmetry
 - Ortolani test: flex legs and abduct hips. Feel for click
 - Barlow test: flex legs and push femers posteriorly. Then abduct hips. Feel for movement of femoral head.
 - Breech presentation: increased risk



Newborn Exam

■ NEURO

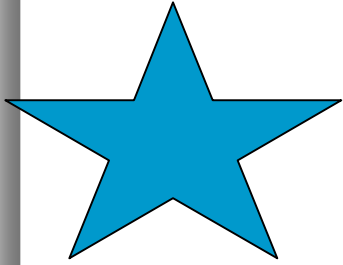
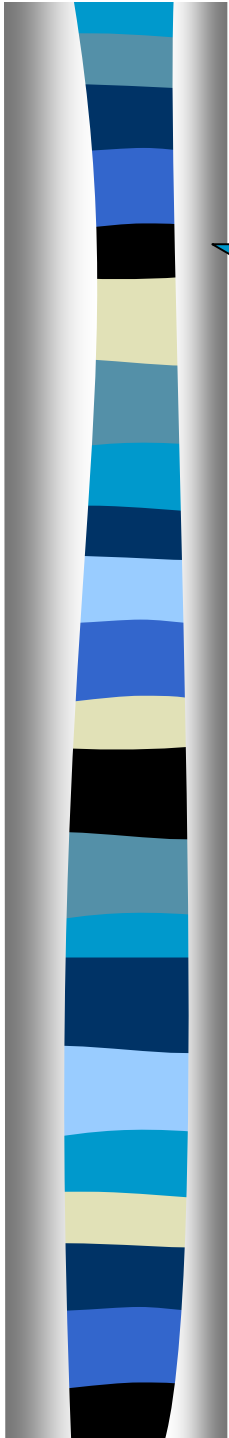
- Posture: Hyperextension of neck - meningeal irritation. Persistent extension of extremities.
- Motor: Assess tone, strength of muscles during ROM. Resistance to passive stretch.
- Sensory: Pain sensation. Do not use pin.



Newborn Exam

■ NEURO

- CN: Can be difficult to assess.
- DTRs: Many difficult to assess at birth.
Check anal reflex
- Achilles tendon: may see unsustained ankle clonus
- Babinski's



Newborn Exam

■ INFANTILE AUTOMATISMS

- Rooting
- Plantar grasp
- Palmar grasp
- Moro or startle reflex
- Galant's reflex
- Placing and stepping response
- Asymmetric tonic neck reflex



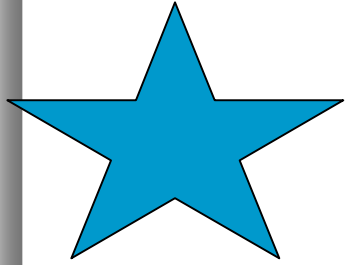
Infantile automatisms

- p 735-736 Bates
- Check them out on youtube:
- http://www.youtube.com/results?search_query=infantile+automatisms&search_type=



Well Child Check

- Immunizations
- Growth and development
- Anticipatory guidance (safety, prevention, early recognition)
- Nutrition
- Screening tests
- Parental questions, concerns

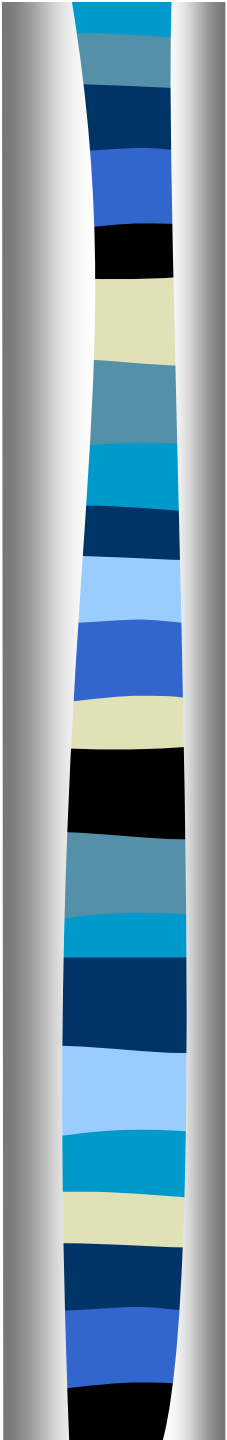


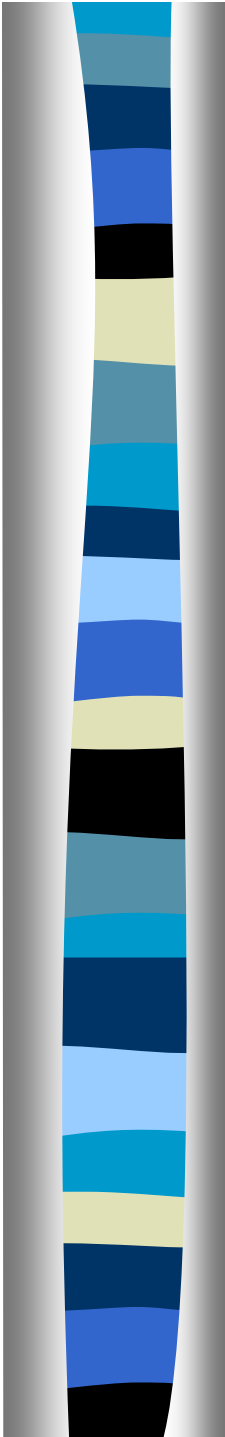
Well Child Check

- Schedule of visits coincides with immunization schedule
 - 2 week. 2,4,6 month. 9,12,15,18 month.
Then annually starting at 2 years.
- Tailor exam / questions with patient age
- Interval history at every exam

Immunizations

- Number has increased in last few years
- Know why we do them
- Real vs. perceived risks





Recommended Immunization Schedule for Persons Aged 0 Through 6 Years—United States • 2009

For those who fall behind or start late, see the catch-up schedule

Vaccine ▼	Age ►	Birth	1 month	2 months	4 months	6 months	12 months	15 months	18 months	19–23 months	2–3 years	4–6 years
Hepatitis B ¹	HepB		HepB		<i>see footnote 1</i>			HepB				
Rotavirus ²				RV	RV	RV ²						
Diphtheria, Tetanus, Pertussis ³				DTaP	DTaP	DTaP	<i>see footnote 3</i>		DTaP			DTaP
<i>Haemophilus influenzae</i> type b ⁴				Hib	Hib	Hib ⁴		Hib				
Pneumococcal ⁵				PCV	PCV	PCV		PCV			PPSV	
Inactivated Poliovirus				IPV	IPV			IPV				IPV
Influenza ⁶							Influenza (Yearly)					
Measles, Mumps, Rubella ⁷							MMR			<i>see footnote 7</i>		MMR
Varicella ⁸							Varicella			<i>see footnote 8</i>		Varicella
Hepatitis A ⁹								HepA (2 doses)				HepA Series
Meningococcal ¹⁰												MCV

Range of recommended ages
 Certain high-risk groups


This schedule indicates the recommended ages for routine administration of currently licensed vaccines, as of December 1, 2008, for children aged 0 through 6 years. Any dose not administered at the recommended age should be administered at a subsequent visit, when indicated and feasible. Licensed combination vaccines may be used whenever any component of the combination is indicated and other components are not contraindicated and if approved by the Food and Drug Administration for that dose of

the series. Providers should consult the relevant Advisory Committee on Immunization Practices statement for detailed recommendations, including high-risk conditions: <http://www.cdc.gov/vaccines/pubs/acip-list.htm>. Clinically significant adverse events that follow immunization should be reported to the Vaccine Adverse Event Reporting System (VAERS). Guidance about how to obtain and complete a VAERS form is available at <http://www.vaers.hhs.gov> or by telephone, 800-822-7967.

Recommended Immunization Schedule for Persons Aged 7 Through 18 Years—United States • 2009

For those who fall behind or start late, see the schedule below and the catch-up schedule

Vaccine ▼	Age ►	7–10 years	11–12 years	13–18 years
Tetanus, Diphtheria, Pertussis ¹	<i>see footnote 1</i>		Tdap	Tdap
Human Papillomavirus ²	<i>see footnote 2</i>		HPV (3 doses)	HPV Series
Meningococcal ³		MCV	MCV	MCV
Influenza ⁴		Influenza (Yearly)		
Pneumococcal ⁵		PPSV		
Hepatitis A ⁶		HepA Series		
Hepatitis B ⁷		HepB Series		
Inactivated Poliovirus ⁸		IPV Series		
Measles, Mumps, Rubella ⁹		MMR Series		
Varicella ¹⁰		Varicella Series		



- Range of recommended ages
- Catch-up immunization
- Certain high-risk groups

This schedule indicates the recommended ages for routine administration of currently licensed vaccines, as of December 1, 2008, for children aged 7 through 18 years. Any dose not administered at the recommended age should be administered at a subsequent visit, when indicated and feasible. Licensed combination vaccines may be used whenever any component of the combination is indicated and other components are not contraindicated and if approved by the Food and Drug Administration for that dose of

the series. Providers should consult the relevant Advisory Committee on Immunization Practices statement for detailed recommendations, including high-risk conditions: <http://www.cdc.gov/vaccines/pubs/acip-list.htm>. Clinically significant adverse events that follow immunization should be reported to the Vaccine Adverse Event Reporting System (VAERS). Guidance about how to obtain and complete a VAERS form is available at <http://www.vaers.hhs.gov> or by telephone, 800-822-7967.

Catch-up Immunization Schedule for Persons Aged 4 Months Through 18 Years Who Start Late or Who Are More Than 1 Month Behind—United States • 2009

The table below provides catch-up schedules and minimum intervals between doses for children whose vaccinations have been delayed. A vaccine series does not need to be restarted, regardless of the time that has elapsed between doses. Use the section appropriate for the child's age.

CATCH-UP SCHEDULE FOR PERSONS AGED 4 MONTHS THROUGH 6 YEARS					
Vaccine	Minimum Age for Dose 1	Minimum Interval Between Doses			
		Dose 1 to Dose 2	Dose 2 to Dose 3	Dose 3 to Dose 4	Dose 4 to Dose 5
Hepatitis B ¹	Birth	4 weeks	8 weeks (and at least 16 weeks after first dose)		
Rotavirus ²	6 wks	4 weeks	4 weeks ²		
Diphtheria, Tetanus, Pertussis ³	6 wks	4 weeks	4 weeks	6 months	6 months ³
<i>Haemophilus influenzae</i> type b ⁴	6 wks	4 weeks if first dose administered at younger than 12 months of age 8 weeks (as final dose) if first dose administered at age 12-14 months No further doses needed if first dose administered at age 15 months or older	4 weeks ⁴ if current age is younger than 12 months 8 weeks (as final dose) ⁴ if current age is 12 months or older and second dose administered at younger than 15 months of age No further doses needed if previous dose administered at age 15 months or older	8 weeks (as final dose) This dose only necessary for children aged 12 months through 59 months who received 3 doses before age 12 months	
Pneumococcal ⁵	6 wks	4 weeks if first dose administered at younger than 12 months of age 8 weeks (as final dose for healthy children) if first dose administered at age 12 months or older or current age 24 through 59 months No further doses needed for healthy children if first dose administered at age 24 months or older	4 weeks if current age is younger than 12 months 8 weeks (as final dose for healthy children) if current age is 12 months or older No further doses needed for healthy children if previous dose administered at age 24 months or older	8 weeks (as final dose) This dose only necessary for children aged 12 months through 59 months who received 3 doses before age 12 months or for high-risk children who received 3 doses at any age	
Inactivated Poliovirus ⁶	6 wks	4 weeks	4 weeks	4 weeks ⁶	
Measles, Mumps, Rubella ⁷	12 mos	4 weeks			
Varicella ⁸	12 mos	3 months			
Hepatitis A ¹	12 mos	6 months			
CATCH-UP SCHEDULE FOR PERSONS AGED 7 THROUGH 18 YEARS					
Tetanus, Diphtheria/ Tetanus, Diphtheria, Pertussis ¹⁰	7 yrs ¹⁰	4 weeks	4 weeks if first dose administered at younger than 12 months of age 6 months if first dose administered at age 12 months or older	6 months if first dose administered at younger than 12 months of age	
Human Papillomavirus ¹¹	9 yrs	Routine dosing intervals are recommended ¹¹			
Hepatitis A ⁹	12 mos	6 months			
Hepatitis B ¹	Birth	4 weeks	8 weeks (and at least 16 weeks after first dose)		
Inactivated Poliovirus ⁶	6 wks	4 weeks	4 weeks	4 weeks ⁶	
Measles, Mumps, Rubella ⁷	12 mos	4 weeks			
Varicella ⁸	12 mos	3 months if the person is younger than 13 years of age 4 weeks if the person is aged 13 years or older			



Well Child Check - Infant

- Height, weight, head circumference plotted at each visit.
- Feedings, wet diapers, stools.
- Sleep position, injury prevention, car seats, signs of illness.
- Parental concerns
- Developmental milestones



Well Child Check - Infant

■ Exam:

- Unclothed
- Fontanelles, hips, genitalia
- Skin: rashes, acne, cradle cap
- Neuro / development



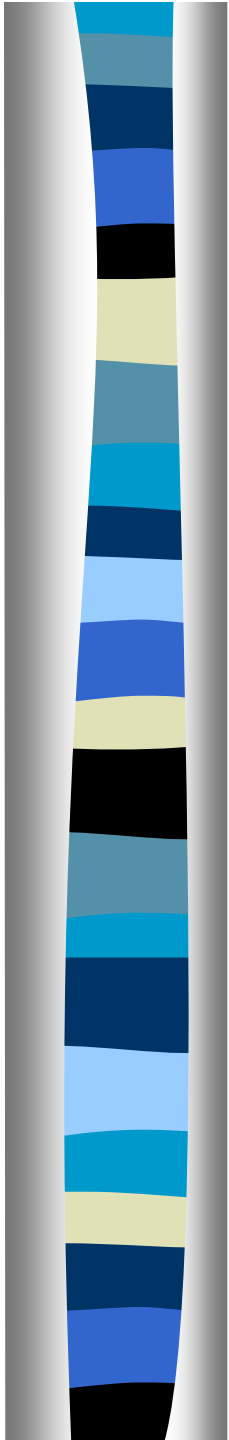
Well Child Check - Infant

- 4 months: Introduce solids if ready
- 6 months: discuss fluoride
- 9 months: check hemoglobin (transition to milk)
- 12 months: check lead level (again at 24 months)
- 18 months: autism screening



Well Child Check - Toddler

- Make the exam fun!
- Sitting in parent's lap
- Save most difficult part of exam for last
- Involve the child
- Anticipatory guidance, development for age
- Height, weight, BMI for age
- Nutrition



Well Child Check - School age

- Screenings: eyes, ears, urinalysis
- HT, WT, BMI for age, **BP**
- Talk about school
- Nutrition
- Activity
- Anticipatory guidance, development for age



Well Child Check - Teenage

- Anticipatory guidance
- Puberty – Tanner Stages
- Safety
- Nutrition
- Activity
- HT, WT, BMI for age, BP



References

- Bates, chapter 18
- Nelson Essentials of Pediatrics
- <http://www.aap.org/> (American Academy of Pediatrics)
- <http://www.cdc.gov/vaccines/recs/schedules/child-schedule.htm> (CDC website for vaccines)