CLASS III

PHYSIOLOGIC ADAPTION OF NEWBORN
POSTPARTUM ADAPTION

NEWBORN ADAPTION TO EXTRAUTERINE LIFE

RESPIRATORY

1. FETAL LUNG DEVELOPMENT
2. ALVEOLI
3. SURFACTANT
4. LECITHIN/SPHINGOMYELIN RATIO
5. FETAL BREATHING MOVEMENTS

TRANSITION FROM FETUS TO NEONATE

1. FLUID IN FETAL LUNGS ALMOST COMPLETELY EXPANDS LUNGS; AIR SPACES FILLED
2. PRODUCTION OF FLUID SHARPLY DECLINES 2-4 DAYS BEFORE LABOR
3. DURING VAGINAL BIRTH PROCESS FETAL THORAX COMPRESSED, FORCING LUNG FLUID OUT
4. AFTER BIRTH CHEST WALL RECOILS, CREATES NEGATIVE INTRATHORACIC PRESSURE, WHICH AIR IS SUCKED BACK INTO LUNG FIELDS, REPLACING FLUID
5. AFTER FIRST INSPIRATION, NEWBORN EXHALES, CREATING POSITIVE INTRATHORACIC PRESSURE
6. POSITIVE PRESSURE DISTRIBUTES INSPIRED AIR THROUGH ALVEOLI, FRC BEGINS
7. LUNGS CONTINUE TO EXPAND WITH EACH BREATH
8. REMAINING LUNG FLUID MOVES INTO INTERSTITIAL TISSUE (FLUID SHIFT)

CARDIOVASCULAR ADAPTION

BEFORE BIRTH:

1. ARTERIALZIED BLOOD FROM PLACENTA FLOWS INTO FETUS THROUGH UMBILICAL VEIN AND PASSES RAPIDLY THROUGH LIVER INTO INFERIOR VENA CAVA
2. BLOOD FLOWS THROUGH FORAMEN OVALE INTO LEFT ATRIUM TO AORTA AND ARTERIES OF HEAD
3. PORTION BYPASSES LIVER THROUGH DUCTUS VENOSUS
4. VENOUS BLOOD FROM LOWER EXTREMITIES AND HEAD PASSES PREDOMINATELY INTO RIGHT ATRIUM, RIGHT VENTRICLE, AND

THEN INTO DESCENDING PULMONARY ARTERY AND DUCTOUS ARTERIOSUS

5. THE FORAMEN OVALE, DUCTUS VENOSUS, AND DUCTUS ARTERIOSUS ACT AS BYPASS CHANNELS
6. THIS ALLOWS LARGE PART OF COMBINED CARDIAC OUTPUT TO RETURN TO PLACENTA WITHOUT FLOWING THROUGH LUNGS AND LIVER

AFTER BIRTH:

1. INFANT'S FIRST BREATH INFLATES LUNGS—REDUCES PULMONARY VASCULAR RESISTANCE TO PULMONARY BLOOD FLOW
2. THIS RESULTS IN PULMONARY ARTERY PRESSURE, WHICH CAUSES DECLINES IN RIGHT ATRIUM PRESSURE
3. INCREASED PULMONARY BLOOD FLOW RETUNED TO LEFT SIDE OF HEART INCREASES PRESSURE IN LEFT ATRIUM
4. THIS CHANGE CAUSES CLOSURE OF FORAMEN OVALE
5. DUCTUS ARTERIOSUS CLOSES AS A RESULT OF ELEVATION OF SYSTEMIC VASCULAR PRESSURE ABOVE PULMONARY VASCUALR PRESSURE WHICH INCREASES PULMONARY BLOOD FLOW
6. INCREASE IN BLOOD O2 CONCENTRATION CAUSES MUSCULAR WALLS OF DUCTUS ARTERIOSUS TO CLOSE IN APPROX. 12 HOURS
7. CAUSE OF DUCTUS VENOSUS UNKNOWN—CLOSURE ALLOWS BLOOD TO FLOW TO LIVER
8. THOUGHT TO BE DUE TO: PRESSURE CHANGES AFTER CUTTING OF CORD, CO, AND MECHANICAL PRESSURE CHANGES

CHEMICAL, THERMAL AND SENSORY STIMULI

CHEMICAL

1. DECREASES IN BLOOD O2 CONCENTRATION AND CESSATION OF PLACENTAL BLOOD FLOW STIMULATE MEDULLA TO TRIGGER RESPIRATORY EFFORTS
2. SURFACTANT REDUCES SURFACE TENSION OF LUNG MUCOSA AND ALLOWS EXHALATION WITHOUT LUNG COLLAPSE

THERMAL

1. SUDDEN CHILLING OF MOIST INFANT STIMULATES THE SKIN SENSORY RECEPTORS TO TRANSMIT IMPULSES TO RESPIRATORY CENTER, WHICH STIMULATES THE INITIATION OF BREATHING
2. EXCESSIVE COLD MAY RESULT IN COLD STRESS

SENSORY

1. TACTILE, AUDITORY, AND VISUAL STIMULATION CAN HAVE EFFECT ON RESPIRATION (DRYING OF INFANT, SKIN TO SKIN CONTACT)

THERMOREGULATION

NEONATE MUST BALANCE HEAT LOSS AND HEAT GENERATION
HEAT IS GENERATED BY METABOLISM OF BROWN FAT

THERMAL NEUTRAL ZONE

HEAT LOSS

1. CONVECTION
2. RADIATION
3. EVAPORATION
4. CONDUCTION

HEAT PRODUCTION

1. INCREASED BMR
2. MUSCULAR ACTIVITY
3. NONSHIVERING THERMOGENESIS

HEPATIC ADAPTION

IRON STORES

CARBOHYDRATE METABLISM

CONUGATION OF BILIRUBIN

PHYSIOLOGICAL JAUNDICE

1. INCREASE OF BILIRUBLIN DELIVERED TO LIVER
2. DEFECTIVE HEPATIC UPTAKE OF BILIRUBIN FROM PLASMA
3. DEFECTIVE CONJUGATION OF BILIRUBIN
4. DEFECT IN BILIRUBIN EXCRETION

BREASTFEEDING JAUNDICE

GASTROINTESTINAL ADAPTION

1. LACTOSE
2. PROTEIN
3. FAT

DIGESTION AND ABSORPTION

ELIMINATION

1. MECONIUM
2. TRANSITIONAL STOOLS

URINARY ADAPTION

IMMUNOLOGIC ADAPTION

NEUROLOGIC AND SENSORY PERCEPTION FUNCTION

FACTORS AFFECTING NEONATE'S ORGANIZATION AND QUALITY OF MOTOR ACTIVITY

1. SLEEP-WAKE STATES
2. ENVIRONMENTAL STIMULI
3. CHEMICAL IMBALANCE
4. HYDRATION STATUS
5. RECOVERY FROM STRESS OF BIRTH

PERIODS OF REACTIVITY AFTER BIRTH

1. FIRST PERIOD OF REACTIVITY
2. PERIOD OF INACTIVITY
3. SECOND PERIOD OF REACTIVITY

BEHAVIOR STATES OF NEWBORN

SLEEP STATES

1. DEEP OR QUIET
2. ACTIVE REM

ALERT STATES

1. DROWSY, SEMIDOZING
2. WIDE AWAKE (QUIET ALERT)
3. ACTIVE AWAKE (ACTIVE ALERT)
4. CRYING

HABITUATION

ORIENTATION

SELF QUIETING ABILITY

NEWBORN ASSESSMENT

GESTATIONAL AGE ASSESSMENT PAGE 589

1. EXTERNAL PHYSICAL CHARACTERISTICS
2. NEUROLOGICAL/NEUROMUSCULAR DEVELOPMENT

PHYSICAL ASSESSMENT

DATA FROM OTHER SOURCES CAN INFLUENCE ASSESSMENT FINDINGS:

1. MATERNAL PRENATAL HISTORY
2. BIRTHING HISTORY
3. MATERNAL ANALGESIA/ANESTHESIA
4. TREATMENT GIVEN IMMEDIATELY AFTER BIRTH
5. GESTATIONAL AGE ASSESSMENT

EXAMINATION

PERFORM OBSERVABLE ASSESSMENT (HANDS-OFF) FIRST:

1. RESTING POSTURE
2. SKIN
3. LANUGO
4. BEHAVIORAL STATE
5. GROSS ANOMALIES
6. SHAPE OF HEAD
7. RESPIRATORY EFFORT
8. SYMMETRY OF FACE, BODY, MOVEMENT
9. CRY

WEIGHT, LENGTH, CHEST HEAD, AND ABDOMINAL MEASUREMENTS

TEMPERATURE

PULSE

RESPIRATION

BLOOD PRESSURE

HEAD

1. SHAPE, SIZE, APPEARANCE
2. MOLDING
3. FONTANELLES
4. DEVIATIONS

SKIN

1. TURGOR, TEXTURE, COLOR
2. ACROCYANOSIS
3. MOTTLING
4. HARLEQUIN SIGN
5. JAUNDICE

6. ERYTHEMA TOXICUM

7. MILIA

8. TELANGIECTATIC NEVI

9. MONGOLIAN SPOTS

10. DEVIATIONS

HAIR

1. TEXTURE, DISTRIBUTION
2. DEVIATIONS

FACE

1. SYMMETRY

2. SPACING OF FEATURES

3. LIPS

4. MOVEMENT

EYES

1. COLOR
2. PLACEMENT
3. MOVEMENT
4. CORNEA
5. SCLERA
6. PUPILS
7. CONJUNCTIVA
8. LACRIMAL GLANDS
9. VISION
10. DEVIATIONS

NOSE

1. APPEARANCE
2. MIDLINE
3. PATENT NARES
4. DEVIATIONS

EAR

1. SHAPE
2. PLACEMENT
3. HEARING

MOUTH

1. SYMMETRY OF MOVEMENT

2. REFLEXES—GAG, SWALLOWING, SUCKING

3. HARD/SOFT PALATE

4. EPSTEIN'S PEARLS

5. TEETH

6. TONGUE—PROPORTION, COLOR, COATING, MOVEMENT, PLACEMENT

7. DEVIATIONS

NECK

1. APPEARANCE

2. CLAVICLE

3. INSPECTION

4. REFLEXES—TONIC NECK, MORO

5. DEVIATIONS

CHEST

1. APPEARANCE, SHAPE, SIZE

2. CIRCUMFERENCE

3. EXPANSION, RETRACTION

4. AUSCULTATION

5. DEVIATIONS

BREASTS

1. DISTANCE BETWEEN NIPPLES
2. SHAPE, SIZE
3. DEVIATIONS

HEART

1. LOCATION

2. PMI

3. RATE, RHYTHM

4. FUNCTIONAL MURMURS

5. DEVIATIONS

ABDOMEN

1. APPEARANCE, SHAPE, SIZE

2. DIASTASIS RECTI

3. UMBILICUS

4. FEMORAL PULSE

5. INGUINAL AREA

6. BLADDER

7. DEVIATIONS

GENITALS

MALE

1. PENIS, SCROTUM, TESTES
2. DEVIATIONS

FEMALE

1. MONS, CLITORIS, LABIA MAJORA, LABIA MINORA, DISCHARGE
2. DEVIATIONS

BUTTOCKS, ANUS

1. SYMMETRY
2. PATENCY OF ANUS
3. GLUTEAL FOLDS
4. DEVIATIONS

EXTREMITIES, TRUNK

1. RANGE OF MOTION, FLEXION, EXTENSION
2. ARMS/LEGS: EQUAL IN LENGTH, SPONTANEOUS JOINT MOVEMENT, FLEXED WHEN QUIET, SYMMETRICAL MOVEMENT
3. HANDS/FEET: 3 OF DIGITS, PALMAR, PLANTAR FLEXES
4. DEVIATIONS

SPINE

1. C-SHAPED
2. FLAT, STRAIGHT
3. VERTEBRAE
4. REFLEX—TRUNCAL INCURVATION
5. DEVIATIONS

HIPS

1. ABDUCT TO MORE THAN 60 DEGREES

2. EQUAL KNEE LENGTH

3. BARLOW, ORTOLANI MANEUVER

4. DEVIATIONS

NEUROMUSCULAR

1. SYMMETRICAL MOVEMENT
2. HEAD LAG
3. REFLEXES

    MORO
    BLINK
    PUPILLARY
    ROOTING, SUCKING, GAG
    PALMAR AND PLANTAR GRASP
    STEPPING
    BABINSKI
    TONIC NECK
    PRONE CRAWL
    TRUNCAL INCURVATION

NEWBORN ADMISSION PROCEDURES

PHYSICAL AND GESTATIONAL ASSESSMENT WITHIN 2 HOURS OF BIRTH

STABLE VITAL SIGNS

CLEAR AIRWAY

NEUTRAL THERMAL ENVIRONMENT

PROPHYLACTIC VITAMIN K

PROPHYLACTIC EYE TREATMENT

ASSESSMENT OF NEONATAL DISTRESS

FIRST FEEDING

PARENT NEWBORN ATTACHMENT

NURSING CARE OF NEWBORN

1. MAINTENANCE OF CARDIOPULMONARY FUNCTION
2. THERMOREGULATION
3. ADEQUATE HYDRATION
4. SKIN INTEGRITY
5. SAFETY PROMOTION—PREVENTION OF COMPLICATIONS
6. CIRCUMCISION

7. ENHANCING PARENT-INFANT ATTACHMENT
8. PARENT TEACHING

    PHYSICAL CHARACTERISITICS OF NEWBORN
    BONDING PROCESS

    SLEEP/WAKE CYCLES

    COMFORTING TECHNIQUES
    EXPECTED NEWBORN BEHAVIORS
    GROWTH AND DEVELOPMENT PARAMETERS
    SAFETY ISSUES

    NEWBORN SCREENING/IMMUNIZATIONS

    NEWBORN CARE

    NEWBORN FEEDING

NEWBORN NUTRITION

CALORIES

PROTEIN

FAT

CARBOHYDRATES

VITAMINS, MINERALS

FLUID REQUIREMENTS

WEIGHT GAIN

BREAST FEEDING

ADVANTAGES

DISADVANTAGES

COMPOSITION OF BREAST MILK

COLOSTRUM

TRANSITIONAL MILK

MATURE MILK

FOREMILK

HINDMILK

FORMULA FEEDING

ADVANTAGES

DISADVANTAGES

INFANT FEEDING

INITIAL FEEDING

FEEDING PATTERN

PHYSIOLOGY OF THE BREAST

1. PROLACTIN
2. LETDOWN REFLEX

POSTPARTUM PHYSICAL ADAPTIONS

1. INVOLUTION OF UTERUS
2. CHANGES IN FUNDAL POSITION
3. LOCHIA
4. CERVICAL AND VAGINAL CHANGES
5. PERINEAL CHANGES
6. CARDIOVASCULAR
7. RESPIRATORY
8. URINARY
9. VITAL SIGNS

10. BLOOD VALUES
11. WEIGHT LOSS
12. POSTPARTAL DAIPHORESIS
13. AFTERPAINS

POSTPARTUM PSYCHOLOGIC CHANGES

MATERNAL ROLE

1. TAKING IN PERIOD
2. TAKING HOLD PERIOD
3. BINDING IN PERIOD

MATERNAL ROLE ATTAINMENT

1. ANTICIPATORY STAGE
2. FORMAL STAGE
3. INFORMAL STAGE
4. PERSONAL STAGE

POSTPARTUM BLUES

POSTPARTUM DEPRESSION

POSTPARTUM PSYCHOSIS

DEVELOPMENT OF PARENT-INFANT ATTACHMENT

1. LEVEL OF TRUST
2. LEVEL OF SELF ESTEEM

3. CAPACITY FOR ENJOYMENT

4. INTEREST/KNOWLEDGE/INADEQUACY CHILDREARING

5. PREVAILING MOOD

6. REACTIONS TO PRESENT PREGNANCY

INITIAL BEHAVIOR

1. TOUCHING

2. EN FACE POSITION

3. SENSE OF SMELL

4. CONNECTEDNESS

    a. ACQUAINTANCE PHASE
    b. PHASE OF MUTUAL REGULATION
    c. RECIPROCITY

FATHER-INFANT INTERACTIONS

1. ENGROSSMENT

SIBLINGS, OTHER FAMILY MEMBERS

CULTURAL CONSIDERATIONS

POSTPARTUM ASSESSMENT

1. VITAL SIGNS

2. BREASTS

3. UTERUS, ABDOMEN

4. BOWELS

5. BLADDER

6. LOCHIA

7. EPISIOTOMY (PERINEUM)

8. LOWER EXTREMITIES
9. CULTURAL ASSESSMENT
10. PSYCHOLOGIC ASSESSSMENT
11. ATTACHMENT ASSESSMENT
12. EDUCATION AND TEACHING

PROMOTION OF PHYSICAL WELL BEING

1. UTERINE STATUS
2. VITAL SIGNS
3. CARDIOVASCULAR STATUS
4. ELIMINATION PATTERNS
5. NUTRITIONAL STATUS
6. SLLEP/REST
7. COMFORT PROMOTION
8. EDUCATIONAL NEEDS
9. RUBELLA IMMUNITY
10. PREVENTION OF DEVELOPMENT OF ANTIGENS
11. TREAT ANEMIA

POSTPARTUM COMFORT MEASURES

1. PERINEUM
2. AFTERPAINS
3. IMMOBILITY
4. DIAPHORESIS
5. SUPPRESSION OF LACTATION

6. PROMOTION OF REST

7. EDUCATION

8. FAMILY WELLNESS

9. PARENT INFANT ATTACHMENT

10. SEXUAL ACTIVITY/CONTRACEPTION