

NurseThink® for Students

NCLEX-PN® Conceptual Review Guide

Clinical-Based for
Next Gen Learning



- ✓ Concept-Based
- ✓ Testing Success
- ✓ Clinical Judgment
- ✓ Prioritization Power
- ✓ NurseThink® Throughout
- ✓ Online Next Gen Questions

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183 Exemplars for Prioritization Power

Clinical Judgment Questions Focus on the New NCLEX®



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Table of Contents

SECTION 1

Introduction

CH 1: Save Time Studying 1

NurseThink® THIN Thinking, 2
Prioritization Power, 3
Alternate Item Formats, 4
NurseThink® for Clinical Judgment, 4

CH 2: What is NCLEX-PN® all about? 5

National Council of State Boards of Nursing, 5
Cognitive Level of Exam Questions, 5
NCLEX-PN® Client Needs, 7
Integrated concepts, 10
Next Generation NCLEX®-12

CH 3: What can I expect? 15

The Exam, 15
Application, 16
Before and the day of the exam, 17
Staying calm in the cubicle, 18
Calming yourself in the cubicle!, 19
Scoring the exam and passing standards, 19
Getting my results, 20

CH 4: How can I prepare? 21

Know what you don't know with the 20/50 Rule!, 21
Test-taking Strategies, 22
Terms to know, 24
Healthy lifestyle for healthy testing, 24

SECTION 2

Priority Exemplars

CH 5: Sexuality 27

Go To Clinical Case 1, 28
Pregnancy, 30
Go To Clinical Case 2, 32
Postpartum hemorrhage, 34
Abortion/miscarriage, 35
Breastfeeding, 36
Contraception, 37
Dystocia, 38
Erectile dysfunction (ED), 39
Hypertensive disorders of pregnancy, 40
Newborn care, 42
Placental abruption, 44
Placenta previa, 45
Preterm labor, 46
Stages of labor, 47
STI: Chlamydia, 50
STI: Human papillomavirus (HPV), 51
STI: Syphilis, 52
NurseThink® Quiz Questions, 53
NurseThink® Quiz Answers, 56

CH 6: Circulation 61

Go To Clinical Case 1, 62
Hypertension, 64
Pulmonary embolism (PE), 65
Go To Clinical Case 2, 66
Stroke – cerebrovascular accident (CVA), 68
Heart failure, 70
Shock, 71
Cardiomyopathy, 72
Coronary artery disease (CAD), 73
Myocardial infarction (MI)/acute coronary syndrome, 74
Peripheral artery disease (PAD), 75
Valvular heart disease, 76
Buerger's Disease and Raynaud's Phenomenon, 77
Venous thromboembolism (VTE), 78
Disseminated intravascular coagulation (DIC), 79
NurseThink® Quiz Questions, 80
NurseThink® Quiz Answers, 83

CH 7: Protection 89

Go To Clinical Case 1, 90
Urinary tract infection, 92
Go To Clinical Case 2, 94
Influenza, 96
Polycystic kidney, 97
Meningitis, 98
Pancreatitis, 100
Appendicitis/peritonitis, 102
Cellulitis/wound infection/septicemia, 104
Gout, 106
Systemic lupus erythematosus, 108
Rheumatoid arthritis, 110
HIV/AIDS, 112
Hypersensitivity reactions, 114
Pyelonephritis, 116
Methicillin-resistant Staphylococcus Aureus/vancomycin resistant Enterococcus, 118
NurseThink® Quiz Questions, 120
NurseThink® Quiz Answers, 123

CH 8: Homeostasis 129

Go To Clinical Case 1, 130
Overhydration/fluid overload, 132
Go To Clinical Case 2, 134
Dehydration/fluid deficit, 136
Hyper/hypocalcemia, 138
Hyper/hypokalemia, 139
Hyper/hypomagnesemia, 141
Hyper/hyponatremia, 142
Hyper/hypophosphatemia, 143
Metabolic acidosis, 144
Metabolic alkalosis, 145
Respiratory acidosis, 146
Respiratory alkalosis, 147
NurseThink® Quiz Questions, 148
NurseThink® Quiz Answers, 150

CH 9: Respiration 155

Go To Clinical Case 1, 156
Asthma, 158
Pneumonia, 159
Go To Clinical Case 2, 160
Tuberculosis, 162
Bronchiolitis/lower airway infections, 163
Upper airway infections, 164
Croup syndromes/epiglottitis, 165
Chronic obstructive pulmonary disease (COPD), 166
Cystic fibrosis (CF), 168
Sickle cell anemia (SSA), 170
Iron-deficiency anemia, 172
Pulmonary hypertension, 173
Acute respiratory distress syndrome (ARDS), 174
Chest trauma/pneumothorax, 175
NurseThink® Quiz Questions, 176
NurseThink® Quiz Answers, 178

CH 10: Regulation 183

Go To Clinical Case 1, 184
Skin cancers, 186
Go To Clinical Case 2, 188
Hyperthermia, 190
Hypothermia, 191
Acute traumatic brain injury, 192
Blood-borne cancers, 194
Hydrocephalus, 196
Lymph cancers, 197

Other cancers, 198
Thrombocytopenia, 201
Polycythemia, 202
NurseThink® Quiz Questions, 204
NurseThink® Quiz Answers, 208

CH 11: Nutrition 213

Go To Clinical Case 1, 214
Gastroesophageal reflux, 216
Go To Clinical Case 2, 218
Constipation, 220
Celiac disease, 221
Acute kidney disease/injury, 222
Benign prostatic hypertrophy/prostate cancer, 224
Gastritis, 226
Cleft lip and palate, 227
Chronic kidney disease/end-stage renal disease, 228
Cirrhosis, 230
Colorectal cancer, 232
Diverticular disease, 234
Intestinal obstruction, 235
Gallbladder conditions, 236
Hepatitis, 238
Inflammatory bowel disease: Crohn's disease/ulcerative colitis, 240
Obesity, 242
Peptic ulcer disease, 244
Pyloric stenosis, 246
NurseThink® Quiz Questions, 247
NurseThink® Quiz Answers, 250

CH 12: Hormonal 255

Go To Clinical Case 1, 256
Gestational diabetes, 258
Addison's disease, 259
Go To Clinical Case 2, 260
Hypothyroidism, 262
Cushing's syndrome, 263
Diabetic ketoacidosis, 264
Diabetes insipidus, 265
Diabetes mellitus – type 2, 266
Diabetes mellitus – type 1, 268
Hyperglycemic hyperosmolar syndrome, 270
Hypoparathyroidism, 271
Hyperparathyroidism, 272
Hyperthyroidism, 274
Metabolic syndrome, 276

Syndrome of inappropriate antidiuretic hormone (SIADH), 277
Wilms tumor, 278
NurseThink® Quiz Questions, 279
NurseThink® Quiz Answers, 282

CH 13: Movement 287

Go To Clinical Case 1, 288
Multiple sclerosis, 290
Go To Clinical Case 2, 292
Fractures, 294
Cerebral palsy, 296
Seizures, 298
Osteoporosis, 300
Osteoarthritis, 301
Peripheral neuropathy, 302
Trigeminal neuralgia, 304
Carpal tunnel, 306
Amputation, 307
Amyotrophic lateral sclerosis, 308
Guillain-Barré syndrome, 309
Myasthenia gravis, 310
Parkinson's disease, 312
Cataracts, 314
Glaucoma, 315
Conjunctivitis, 316
Macular degeneration, 317
Hearing impairment, 318
Scoliosis, 319
Labyrinthitis/Meniere's disease, 320
Otitis media/externa, 322
Spina bifida, 324
Spinal cord injury, 326
NurseThink® Quiz Questions, 328
NurseThink® Quiz Answers, 331

CH 14: Comfort 337

Go To Clinical Case 1, 338
Pressure ulcers, 340
Go To Clinical Case 2, 342
Sleep disorders, 344
Acute pain, 346
Burns, 348
Chronic pain, 350
Fatigue, 352
Contact dermatitis/ impetigo, 354
NurseThink® Quiz Questions, 355
NurseThink® Quiz Answers, 358

Table of Contents

SECTION 2

Priority Exemplars

CH 15: Adaptation 363

Go To Clinical Case 1, 364
Eating disorders, 366
Go To Clinical Case 2, 368
Substance abuse, 370
Post-traumatic stress disorder (PTSD), 372
Trauma: Abuse, rape, and sexual assault, 374
Crisis intervention, 376
Obsessive-compulsive disorder (OCD), 377
NurseThink® Quiz Questions, 378
NurseThink® Quiz Answers, 381

CH 16: Emotion 387

Go To Clinical Case 1, 388
Depression, 390
Go To Clinical Case 2, 392
Death and dying, 394
Bereavement, 395
Anxiety disorders, 396
Bipolar disorders, 398
Schizophrenia, 400
Postpartum depression (PPD), 402
NurseThink® Quiz Questions, 403
NurseThink® Quiz Answers, 405

CH 17: Cognition 411

Go To Clinical Case 1, 412
Dementia/Alzheimer's disease, 414
Go To Clinical Case 2, 416
Autism spectrum disorders (ASD), 418
Attention-deficit/hyperactivity disorder (ADHD), 419
Delirium, 420
NurseThink® Quiz Questions, 422
NurseThink® Quiz Answers, 424

SECTION 3

Closing

CH 18: Health Promotion 431

Infants, 432
Toddlers, 434
Preschoolers, 436
School-age children, 438
Adolescents, 440
Adults, 442
Older adults, 444
NurseThink® Quiz Questions, 446
NurseThink® Quiz Answers, 448

CH 19: Role of the Nurse in Quality and Safety 453

Patient-centered care, 454
Teamwork and collaboration, 454
Evidence-based practice, 456
Quality Improvement, 456
Safety, 457
Informatics, 457
NurseThink® Quiz Questions, 459
NurseThink® Quiz Answers, 461

CH 20: Where do I go from here? 467

Next steps: Set your study goals—
Plan your study time and stick with it, 467
Your healthy NCLEX® lifestyle, 468
Be Successful!, 470

Specialties

Children's Health

Acute pain, 346
Adolescents, 440
Asthma, 158
Attention-deficit/hyperactivity disorder (ADHD), 419
Autism, 418
Breastfeeding, 42
Bronchiolitis/lower airway infections, 163
Cerebral palsy, 296
Chronic pain, 350
Cleft lip and palate, 227
Croup syndromes/epiglottitis, 165
Cystic fibrosis, 168
Dehydration/fluid deficit, 136
Diabetes mellitus – type 1, 268
Eating disorders, 366
Gastroesophageal reflux, 216
Heart failure, 70
HIV/AIDS, 112
Hydrocephalus, 196
Infants, 432
Iron-deficiency anemia, 172
Meningitis, 98
Newborn care, 42
Otitis media/externa, 322
Overhydration/fluid overload, 132
Preschoolers, 436
Pyloric stenosis, 246
Scoliosis, 319
Seizures, 298
Sickle cell anemia, 170
Spina bifida, 324
Toddlers, 434
Upper airway infections, 164
Valvular heart disease, 76
Wilms tumor, 278

Mental Health

Anxiety disorders, 396
Attention-deficit/hyperactivity disorder (ADHD), 419
Autism, 418
Bereavement, 395
Bipolar disorders, 398
Crisis intervention, 376
Death and dying, 394
Delirium, 420
Dementia/Alzheimer's disease, 414
Depression, 390
Eating disorders, 366
Obsessive-compulsive disorder, 377
Post-traumatic stress disorder, 372
Schizophrenia, 400
Substance abuse, 370
Trauma: Abuse, rape, and sexual assault, 374

Women's Health

Abortion/miscarriage, 35
Acute pain, 346
Adults, 442
Breastfeeding, 36
Chronic pain, 350
Constipation, 220
Contraception, 37
Disseminated intravascular coagulation, 79
Dystocia, 38
Eating disorders, 366
Fatigue, 352
Gestational diabetes, 258
Hypertensive disorders of pregnancy, 40
Iron-deficiency anemia, 172
Newborn care, 42
Obesity, 242
Older adults, 444
Osteoporosis, 300
Placental abruption, 44
Placenta previa, 45
Postpartum hemorrhage, 34
Pregnancy, 30
Preterm labor, 46
Shock, 71
Stages of labor, 47
STIs, 50–52
Trauma: Abuse, rape, and sexual assault, 374
Urinary tract infection, 92

Sexuality

Reproduction / Sexuality

This chapter addresses pregnancy, labor, and delivery along with conditions that impair or interfere with sexuality and reproduction. Sexuality is a basic human trait and need. Reproduction is a routine process in which nurses support pregnancy, labor, and delivery.

Nurses play a significant role in teaching and supporting clients during the reproductive cycle and in conditions that interfere or impair reproduction or sexual functioning.

Study Hint: (GTPAL)

- Gravida: # of pregnancies
- Para/Parity: # of pregnancies in which the fetus reaches 20 weeks of pregnancy
- Term pregnancy: 38 weeks or greater
- Preterm pregnancy: 20 weeks to 37 weeks
- Abortion/miscarriage: Stillborn
- Living: Living at time of birth

Priority Exemplars:

- Pregnancy
- Postpartum hemorrhage
- Abortion/miscarriage
- Breastfeeding
- Contraception
- Dystocia
- Erectile dysfunction
- Hypertensive disorders of pregnancy
- Newborn care
- Placental abruption
- Placenta previa
- Preterm labor
- Stages of labor
- STI: Chlamydia
- STI: Human papillomavirus
- STI: Syphilis





Go To Clinical Case 1

S.S. is a 20-year-old college student who is sexually active with her boyfriend of two years. S.S. uses an intrauterine device (IUD) for birth control; however, because she has been away at college, she missed her three-year replacement visit that was scheduled two months prior. S.S. is aware of the risk she is taking missing this appointment and tells her boyfriend, “I’ll just get it replaced when we return home for Spring break; in the meantime, we just have to be careful and use condoms.”

S.S. is now home visiting her obstetrician with complaints of fatigue, breast tenderness, and a missed menstrual cycle. The nurse cares for S.S. and suspects she may be pregnant.

NurseThink® Time

Using the NurseThink® system, complete the priorities. Check your answers designated by  in the Pregnancy Priority Exemplar.

Clinical Hint

The pregnant woman’s body goes through several physiological and psychological changes. These changes are necessary for nourishing and supporting the fetus and preparing the client for childbirth. Nurses must be aware and monitor how these changes will affect the client and their daily living.



 Priority Data Collection or Cues

- 1.
- 2.
- 3.

 Priority Laboratory Tests/Diagnostics

- 1.
- 2.
- 3.

 Priority Interventions or Actions

- 1.
- 2.
- 3.

 Priority Potential & Actual Complications

- 1.
- 2.
- 3.

 Priority Nursing Implications

- 1.
- 2.
- 3.

 Priority Medications

- 1.
- 2.
- 3.

 Reinforcement of Priority Teaching

- 1.
- 2.
- 3.

Pregnancy



Pathophysiology/Description

- Described as gestation (approximately 280 days) from fertilization to implantation to birth
- Nagele's rule—subtract 3 months and add seven days to the first day of the last menstrual period—add one year—yields date of delivery



Priority Data Collection or Cues

- Pregnancy outcomes terminology
 - Gravidity—number of pregnancies (nulligravida-no pregnancies, multigravida-two or more pregnancies)
 - Parity—numbers of births (nullipara, primipara, multipara)
 - GTPAL—gravidity, term births, preterm births, abortions/miscarriages, living children
- Signs of pregnancy
 - Presumptive—amenorrhea, nausea/vomiting, breast changes, urinary frequency, quickening, fatigue, change in color of vaginal mucosa
 - Probable—uterine enlargement, Hegar's sign (softening of uterine segment), Goodell's sign (softening of cervix), Chadwick's sign (violet discoloration of the cervix), Ballottement (rebounding of uterus when fetus is unengaged), Braxton Hicks contractions, positive hCG
 - Positive—fetal heart tones, fetal movements, ultrasound confirmation
- Fundal height
 - From 18-30 weeks, fundal height = gestational age
- Maternal physical changes
 - Increase in circulating blood volume, physiological anemia of pregnancy, retention of sodium/water
 - Nausea and vomiting, constipation
 - Urinary frequency
 - Skin changes—linea nigra (dark line down abdomen), melasma (mask of pregnancy), striae gravidarum (stretch marks), vascular spider nevi, palmar erythema pruritis gravidarum
 - Increased lordosis, relaxed muscle tone, posture changes, carpal tunnel syndrome, tingling of hands and feet, diastasis recti abdominis (separation of abdominal muscles), syncope
 - Emotional changes—ambivalence, acceptance, emotional lability, body image changes, preparing emotionally for motherhood
- Collect data on the mother's history
 - Chronic or acute illness/disease and current health status (hypertension, diabetes, cardiac disease, asthma, rubella, other infections: STIs and HIV)
 - Examine family history
 - Examine reproductive history
 - Examine history of or risk for intimate partner violence
 - Look for substance use or abuse/cigarette smoking
 - Look for risk associated with age (< 18 years, > 35 years)
 - Ask about genetic issues

- Check nutritional history
- Check use of medications, herbal therapies, and complementary/alternative therapies



Priority Laboratory Tests/Diagnostics

- Pregnancy test for human chorionic gonadotropin (hCG)—appears 8-10 days after conception—via blood, urine, or home urine testing (variations in accuracy of home tests)
- Blood type and Rh factor
 - Rubella titer
 - Hemoglobin/hematocrit/complete blood count
 - Pap smear
 - Cultures for STIs (gonorrhea, syphilis, HPV, Chlamydia, trichomoniasis, herpes simplex, HIV)
 - Sickle cell screening as indicated
 - Tuberculosis screening
 - Hepatitis B titer
 - Urinalysis and urine culture
- Ultrasounds—gestational age, fetal outlines, amniotic fluid volume, multiple fetuses (abdominal or transvaginal)
 - Biophysical profile—monitor fetal breathing movements, fetal movements, fetal tone, amniotic fluid volume, and fetal heart patterns
 - Doppler blood flow analysis—blood flow in fetus, umbilical cord, and placenta
 - Percutaneous umbilical blood sampling—needle aspiration of blood guided by ultrasound
 - Alpha-fetoprotein screening—monitor for spina bifida and Down syndrome
 - Lecithin-sphingomyelin (L/S ratio)—maturity of fetus
 - DNA testing—monitor for genetic abnormalities
 - Chorionic villi sampling—monitor for genetic abnormalities via villi in chorion
 - Amniocentesis—aspiration of fluid between 15 and 20 weeks
 - Kick counts—fetal movement counting and recording
 - Fern test—microscopic slide test to ascertain if vaginal leakage is amniotic fluid
 - Nitrazine test—look at pH of vaginal secretions—amniotic fluid is 7.0-7.5; vaginal secretions are 4.5-5.5
 - Fetal-Fibronectin—cervical swab, identify risk for preterm labor
 - Nonstress test—for fetal well-being, identify changes in heart rate as related to fetal movement
 - Contraction stress test—for fetal well-being, monitor changes in heart rate as related contractions or simulated contractions
 - Group B streptococcus—vaginal and rectal cultures at 35-37 weeks gestation
 - Glucose tolerance test between 24-28 weeks gestation, or as indicated by the health care provider



Priority Interventions or Actions

- Establish health care provider visit schedule—every 4 weeks until 32 weeks, every 2 weeks until 36 weeks, every week until delivery

- Nausea and vomiting—most in first trimester, elevated hCG levels, eat dry crackers, small/frequent meals, drinking liquids apart from meals, if unmanageable—hyperemesis gravidarum—treated with intravenous fluids or total parenteral nutrition (antiemetics with caution)
- Supine hypotension—side sleeping and caution during examination, change positions slowly, ensure safety
- Breast discomfort—wear a supportive bra, wash nipples carefully
- Fatigue/backache—rest periods, regular exercise, yoga, optimal hydration and nutrition
- Heartburn—tailor sitting, upright after meals, small/frequent meals
- Ankle edema—elevate legs, supportive hose, ankle exercises, sleep on side
- Varicose veins—supportive hose, elevate legs, move/exercise often
- Headaches—drink water, change positions slowly, snacks, cool cloth
- Hemorrhoids/constipation—sitz baths, high fiber foods/water, exercise
- Leg cramps—increase calcium intake, regular exercise, dorsiflex foot
- Shortness of breath—rest, sleep with HOB elevated, pace activities
- Pica—eating non-food substances, may result in anemia, nutrition counseling
- Anemia—ensure prenatal vitamins and, if prescribed, iron supplementation, take with vitamin C, nutrition counseling

Priority Potential & Actual Complications

- Hypertensive disorders/gestational hypertension
- Abortion/miscarriage/fetal demise
- Gestational diabetes and DIC
 - Infection-TORCH-monitor and manage
 - Toxoplasmosis
 - Other infections: HIV, HBV, STIs, Group B strep, pyelonephritis, UTI, tuberculosis
 - Rubella
 - Cytomegalovirus
 - Herpes simplex
 - Ectopic pregnancy is implantation outside of uterus
 - Hydatidiform mole is peripheral cells of fertilized ovum proliferate, may be benign or malignant—must be vacuum extracted, pregnancy not recommended for one year
 - Incompetent cervix is treated with cervical cerclage

Priority Nursing Implications

- Offer counseling and support to the woman during pregnancy
- Provide sexuality counseling. Pregnancy does not limit intercourse but may require position or activity changes, pregnant women may have decreased desire or body image changes that warrant teaching and discussion

- Pregnancy can offer challenges for women who are obese with complications in pregnancy, delivery, post-delivery
- Observe and intervene related to the emotional tasks of pregnancy including transitioning to motherhood/parenthood/fatherhood, changes in family dynamics, and dealing with body image changes
 - Attend to needs of non-pregnant partners/co-mothers
 - Observe and intervene with extended family adaptation including siblings, grandparents, etc.
- Counsel mothers that the expected weight gain in pregnancy is 25-35 pounds, increase to 300 kcal/day during pregnancy (may be based on pre-pregnancy BMI)

Priority Medications

- Prenatal vitamins given orally
 - High iron may cause constipation
 - High in folic acid (preconceptual and prenatal recommended to prevent neural tube defects)
 - Taken throughout pregnancy and breastfeeding

Reinforcement of Priority Teaching

- The importance of nutrition and hydration during pregnancy—instruct to avoid high mercury fish (swordfish, tuna), raw or undercooked fish and meat (sushi), cold cuts, soft cheeses, raw eggs, uncooked batter (avoid salmonella, listeria)
- Expected physical and emotional changes of pregnancy, anticipatory guidance for pregnancy, labor, and delivery
 - The prevention of urinary tract infections including fluid intake, frequent emptying of bladder, cranberry juice or capsules, Kegel exercises, hygiene
 - Ensure attention to dental health including cleaning, examinations, and treatment, gingival health
- Explore birth plan and potential alternatives with client and family including caregivers (physician, midwife, doula) and setting (hospital, birth center, home)
- Exercise as tolerated. Mothers may continue exercises that they were accustomed to until later in pregnancy, now is not the time to start a new exercise regimen; stop exercise if feel shortness of breath, dizzy, numbness, contractions, or vaginal bleeding
- Counsel client on avoidance of alcohol, unprescribed medications, cigarettes, and caffeine

Go To Clinical Answers

Text designated by  are the top answers for the Go To Clinical related to Pregnancy.



Go To Clinical Case 2

The nurse starting the evening shift cares for Mrs. A., a 26-year-old client, G1 P1, who delivered vaginally an 8lb 2oz (3685 gm) term male infant at 1630. Mrs. A. had an uncomplicated pregnancy with forceps delivery. The off-going shift reported that Mrs. A. voided during delivery and has not been up to the restroom. Ibuprofen 600 mg was given p.o. 45 minutes prior for abdominal cramping, and at this time her perineal pad was changed. Heavy lochia rubria noted with small clots. Vital signs taken 20 minutes prior to your arrival revealed pulse 86 beats/minute; blood pressure 120/76 mmHg; respiratory rate 22 breaths/minute; temperature 98.1°F (36.7°C); oxygen saturation on room air 97%.

When the nurse arrives in the room to greet Mrs. A., she is in pain, rating her pain a 7 on a 0-10 pain scale.

She states, “I don’t feel well.” The nurse proceeds to check Mrs. A’s abdomen and notes the hospital gown, bed linens, and perineal pad are saturated with blood. The fundus is boggy at 3 cm above the umbilicus. What is the nurse priority nursing actions?

Next Gen Clinical Judgment

Use 10 words to describe how a client would look if they lost a significant amount of blood.

NurseThink® Time

Using the NurseThink® system, complete the priorities. Check your answers designated by  in the Postpartum hemorrhage Priority Exemplar.



 Priority Data Collection or Cues

- 1.
- 2.
- 3.

 Priority Laboratory Tests/Diagnostics

- 1.
- 2.
- 3.

 Priority Interventions or Actions

- 1.
- 2.
- 3.

 Priority Potential & Actual Complications

- 1.
- 2.
- 3.

 Priority Nursing Implications

- 1.
- 2.
- 3.

 Priority Medications

- 1.
- 2.
- 3.

 Reinforcement of Priority Teaching

- 1.
- 2.
- 3.

Postpartum hemorrhage

Pathophysiology/Description

- Leading cause of morbidity and mortality in US and worldwide
- Bleeding of 500 mL or more post-vaginal delivery or 1000 mL or more after a C-section
- May occur as early hemorrhage (first 24 hours) or late hemorrhage (after 24 hours to 6 weeks)
- May be caused by uterine atony, lacerations of the cervix or vagina, retained portions of the placenta, or rupture of hematomas
- Risk factors include history of previous hemorrhage after birth; placental abruption; placenta previa; prolapsed uterus related to multiparity birth, large baby, or polyhydramnios; dystocia or prolonged labor; oxytocin induction or augmentation; administration of magnesium sulfate; operative/invasive delivery; or infections

Priority Data Collection or Cues

- Monitor vital signs. Attend to blood pressure and heart rate
- Monitor perfusion including skin temperature, capillary refill, peripheral pulses, motor/sensory function, and pallor
- Observe for bleeding including source (lacerations, hematomas, or episiotomy), pattern, amount, perineal pad count/weight, watch for and count clots, duration, color (dark red-venous; bright red-arterial/lacerations), and consistency
- Observe for signs of hypotension including restlessness, tachycardia, tachypnea, hypotension, cool/clammy skin, pale or grey skin color
- Monitor for complaints of dizziness, weakness or dyspnea
- Evaluate contractability of uterus (hypotonic/boggy)
- Examine fundal height, firmness, and position
- Monitor bladder for distension

Priority Laboratory Tests/Diagnostics

- CBC—Hemoglobin or hematocrit levels
- Ultrasound of uterus for retained placenta
- Blood type and screen
- Coagulation studies/platelet counts

Priority Interventions or Actions

- Ensure safety precautions and reinforce bedrest
- If lack of uterine tone, gently massage fundus, encourage client to empty her bladder if condition warrants. Health care provider may do bimanual compression, put baby to breast
- Insert a urinary catheter to check renal perfusion and output and empty bladder
- Administer oxygen-non-rebreather 8-10 L/min, monitor pulse ox
- Assist in accessing two intravenous sites and provide fluids, bolus, or transfuse as prescribed (PRBCs preferred)
- Prepare for surgery as indicated-surgical or bedside repair

- If indicated, critical care monitoring and hemodynamic monitoring

Priority Potential & Actual Complications

- Hypovolemic shock/hemorrhagic shock
- Acidosis
 - Uterine inversion
- Disseminated intravascular coagulation
 - May be fatal

Priority Nursing Implications

- Provide support to client and family with care of critically ill client
- Ensure maternal contact with infant as able
- Consider interventions to address interruption in infant/maternal bonding

Priority Medications

- Oxytocin given intravenous
 - To decrease bleeding
 - 10-40 units/1000 mL lactated ringers or normal saline solution
 - Increases tone of uterus to decrease bleeding
- Prostaglandins
 - To decrease bleeding
 - Misoprostol-per rectum, sublingual, or oral
 - 15-methyl prostaglandin F2 alpha
 - Intramuscular injection
 - Contraindicated with asthma and hypertension
 - Prostaglandin E2—oral or per rectum
- Methylergonovine
 - Intramuscular uterine stimulant
 - Contraindicated with hypertension

Reinforcement of Priority Teaching

- Increased importance of rest in mother after blood loss—superimposed on care of infant/assistance with baby care
- High iron diet to include green, leafy vegetables, meats, and supplements as prescribed
- With lacerations and while on iron prevent constipation, encourage fluids and high fiber diet
- May have difficulty with delays in breastfeeding, refer to lactation counselor

Go To Clinical Answers

Text designated by  are the top answers for the Go To Clinical related to Postpartum hemorrhage.

Dystocia

Pathophysiology/Description

- Dysfunctional, long, difficult, or abnormal labor
 - Lack of progress of dilation, descent, and/or expulsion
 - 8-11% of labors, it is most common indication for C-section
 - Related to alterations in function or parts of the birth process
1. Powers-ineffective contractions, pushing, or bearing down
 - Maternal fatigue or dehydration
 - Epidural or early analgesia
 - Overstimulation of uterus, uterine dysfunction, hypotonic (short, irregular, weak) or hypertonic (painful, frequent, and uncoordinated) uterine contractions
 2. Passage-pelvis/soft tissue obstruction
 - Cephalopelvic disproportion
 - Fetopelvic dystocia
 3. Passenger
 - Size, presentation
 - Multiparity
 4. Position
 - Maternal body position during labor
 - Restriction of normal activity
 5. Psychological
 - Negative past experiences and fear inhibit progress in labor
 - Childbirth preparation and support may allow childbirth to progress more quickly
- Risk factors include obesity, short stature, previous dystocia, malpresentation, malposition, advanced maternal age, infertility

Priority Data Collection or Cues

- Monitor vital signs for maternal tachycardia, monitor maternal temperature
- Monitor fetal heart tones for fetal tachycardia and response to contractions and progress of labor
- Assist in examining for cervical effacement and dilation
- Monitor contraction patterns
- Determine Bishop score which is maternal readiness for labor/induction, (dilation of cervix, effacement of cervix, consistency of cervix, position of cervix, and station of presenting part—each of 5 parameters are scored 0-3, 6 or more is readiness for labor induction)
- Monitor fetal position and presentation
- Assist in checking intactness of amniotic membranes
- Monitor for risk for dystocia throughout labor
- Monitor maternal pain level and effectiveness of management strategies

Priority Laboratory Tests/Diagnostics

- Ultrasound
- Nonstress tests to ensure fetal well-being

Priority Interventions or Actions

- Encourage maternal rest between contractions to ensure energy to deal with labor, provide comfort measures, back rubs, position changes, and encourage ambulation and frequent voiding
- Assist mother in learning breathing and relaxation strategies
- Pain relief may allow client to deal with contractions and allow labor to progress
- Administer prophylactic antibiotics as prescribed
- Administer fluids as prescribed, monitor intake and output
- Monitor color of amniotic fluid
- Monitor for prolapse of cord after membranes break or are ruptured
- Internal or external version to turn a fetus in breech or shoulder presentation
- Cervical ripening
 - Chemical agents
 - Physical and mechanical methods-balloon catheter, hydroscopic dilators, amniotic membrane sweeping
 - Other methods-intercourse, nipple stimulation, walking
- Amniotomy—rupture of membranes
- Episiotomy—incision of posterior vagina/perineum
- Forceps assisted birth or vacuum assisted birth
- Cesarean birth with spinal, epidural, or general anesthesia

Priority Potential & Actual Complications

- Maternal dehydration and infection
- Fetal hypoxia, injury, asphyxia, or demise
- Post-vaginal delivery complications: infection, hemorrhage
- C-section complications include anesthesia reactions, hemorrhage, bowel/bladder injury, aspiration pneumonia, drug reaction, air embolism, amniotic embolism, urinary tract infections, wound hematoma/infection, dehiscence, bowel dysfunction, venous thrombosis. For the neonate, tachypnea, asphyxia, injuries, prematurity
- Complications associated with procedures (forceps, etc.)

Priority Nursing Implications

- Continually monitor mother's comfort, fetal heart tones, and mother's vital signs in response to procedures
- For mothers who are Rh-negative, prepare to administer Rho (D) immune globulin

Reinforcement of Priority Teaching

- Assist client and family/partners to review and debrief birth process, although it may not have replicated the birth plan
- Ensure that client gets the rest needed to heal and provide mothering, feeding, and affection to infant

Placenta previa

Pathophysiology/Description

- Placenta is implanted lower than optimal in the uterus—completely or partially/marginally covers the cervix
- Bleeding occurs with dilatation and effacement of the cervix
- Occurs in second and third trimester
- Risk factors include history of C-section, suction curettage, and previous placenta previa; advanced maternal age, multiparity, smoking, and living in a high altitude

Priority Data Collection or Cues

- Ask about risk factors
- Monitor vaginal bleeding—bright red with placenta previa
- Monitor pain—bleeding with placenta previa is usually painless
- Examine abdomen—soft, relaxed and non-tender, fundal height may be greater than expected, often with breech/transverse/oblique lies
- Monitor fetal heart tones—usually normal unless major deterioration
- Monitor urine output

Priority Laboratory Tests/Diagnostics

- Transabdominal ultrasound (check for placental placement—if low then transvaginal)
- Transvaginal ultrasound—done with select cases, avoid uterine stimulation
- Blood studies—hemoglobin/hematocrit, platelets, coagulation studies, type and screen/crossmatch
- Kleihauer-Betke test to detect fetal blood in maternal circulation

Priority Interventions or Actions

- Closely monitor vital signs and monitor for a rapid hemorrhage
- Large bore intravenous access—prepare for fluids and blood products
- Position side-lying, bed rest
- Refrain from unneeded vaginal exams
- < 34 weeks—betamethasone to mature fetal lungs
- Without bleeding and < 36 weeks without labor, implement expectant management including limited activity, pelvic rest, check for bleeding, nonstress test, biophysical profile—twice/week—if no bleeding for 48 hours/stable—may discharge to home with restrictions
- > 36 weeks and no major bleeding—active management including birth. If previa is within 2 cm of cervix, a C-section is indicated; > 2cm away, a vaginal birth is recommended

Priority Potential & Actual Complications

- Hemorrhage (bleeding may also occur postpartum)
- Abnormal placental attachment
- Hysterectomy
- C-section (with concurrent potential side effects)
- Fetal death secondary to preterm birth
- Fetal abnormalities/intrauterine growth retardation

Priority Nursing Implications

- Emotional support for potential stress associated with high-risk pregnancy
- Observe for degree of bleeding by estimating milliliters of blood loss of spots or stains

Priority Medications

- Magnesium sulfate—given intravenous
 - Have available for tocolysis (relax uterus)
 - To prevent preterm delivery
 - Monitor serum magnesium levels (4-7 mEq/L)
 - Look for magnesium toxicity/serum hypermagnesemia. Signs include absence of patellar deep tendon reflexes, decreased level of consciousness, low urine output, bradypnea, and cardiac dysrhythmias
 - Antidote for hypermagnesemia is calcium gluconate
- Betamethasone—given intramuscular or intravenous
 - Steroids administered to mature fetal lungs
 - Given if risk of delivery prior to 34 weeks
- Ferrous sulfate—given orally
 - Increase iron stores in the event of bleeding
 - May cause constipation and gastric upset

Reinforcement of Priority Teaching

- If discharged, home care includes activities restrictions and client must have access to a phone, must be within 20 minutes of the hospital, must have access to transportation, and must have friends/family to assist in care. Clients are told to proceed to the hospital in the event of any vaginal bleeding
- Ensure that mothers understand precautions of pelvic rest—no exams, no sexual intercourse, limited transvaginal ultrasounds
- Counsel client about ways to keep busy and diversional activities—activity restrictions may be very boring and raise anxiety levels

Preterm labor

Pathophysiology/Description

- Labor that occurs after the 20th week but before the 37th week
- Risk factors include history of ongoing or chronic medical conditions, substance use, lack of prenatal care, infection, social and environmental factors, previous preterm labor or other obstetrical complications, multiparity and overdistention of the uterus, anemia, age younger than 18 or over 40 years

Priority Data Collection or Cues

- Consider risk factors for preterm labor
- Check gestational age of infant
- Monitor uterine contractions (painful or painless)
- Monitor for abdominal cramping, low back pain, pelvic pain or heavy feeling, discharge (color, consistency, odor, presence of blood)
- Observe for intactness of membranes
- Observe for presence of fetal fibronectin in vaginal canal
- Assist in examining shape and dilation of cervix

Priority Laboratory Tests/Diagnostics

- Urine culture and sensitivity
- Monitor blood glucose levels
- Monitor complete blood count including WBC
- Ultrasound for fetal position and cervical shape
- Fetal fibronectin (via vaginal swab) associated with placental inflammation/collect specimen before lubricant

Priority Interventions or Actions

- Focus on ceasing contractions
- Treat infections with antibiotics
- Hydrate via oral and intravenous routes
- Maintain bed rest in lateral position
- Provide for continuous fetal monitoring
- Provide steroids to mature fetal lungs
- Provide antibiotics if septic abortion

Priority Potential & Actual Complications

- Issues associated with infant prematurity
- Precipitous delivery
- Postpartum hemorrhage
- Fetal demise

Priority Nursing Implications

- Support the mother during the stress associated with preterm labor
- Carefully assist in fetal monitoring and infant responses to or impact of preterm labor

Priority Medications

- Magnesium sulfate—given intravenous
 - Relaxes smooth muscles and halts preterm labor, prevents preterm birth
 - Look for respiratory depression and depressed deep tendon reflexes
 - Monitor magnesium levels
 - Should be administered via infusion pump
 - Have calcium gluconate available—antidote
 - Monitor urine output throughout infusion
- Nifedipine—given orally
 - Relaxes smooth muscles, including the uterus
 - Watch for maternal hypotension, dizziness, headache, facial flushing, fatigue, nausea, nervousness, tachycardia
 - Do not use with magnesium sulfate
- Betamethasone—given intramuscular or intravenous
 - Increases production of surfactant to accelerate fetal lung maturity
 - Watch for hyperglycemia and maternal immunosuppression
 - Administer deep intramuscular injection
- 17 alpha hydroxyprogesterone caproate
 - Intramuscular injections to prevent preterm labor
- Terbutaline
 - SQ injection
 - Relaxes smooth muscle
 - Duration of not more than 24 hours
 - Contraindicated with cardiac disease, hypertension, hyperthyroid, or hemorrhage
- Antibiotics may be indicated with septic abortions

Reinforcement of Priority Teaching

- Provide support and information about course of labor and birth
- Provide support for infants who are in a NICU due to prematurity
- Encourage maternal and family bonding, breastfeeding, and infant care to support a thriving newborn
- If labor is stopped, provide client with guidelines on bedrest, pelvic rest (no sexual intercourse/vaginal exams/douching), tocolytics, hydration, emptying bladder frequently, and parameters for calling/returning to health care provider
- Notify health care provider of heavy, bright red vaginal bleeding, elevated temperature, or foul-smelling vaginal drainage



NurseThink® Quiz Questions

1. The nurse assists a new mother in the care of her newborn who was delivered ten hours ago. Which stool sample does the nurse observe when changing the newborn's first diaper?

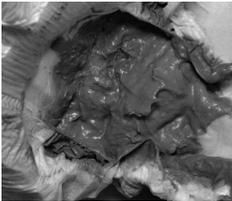
a.



b.



c.



d.



2. The nurse evaluates a client prescribed combined oral contraceptives for family planning. What finding does the nurse report immediately?

- a. Blurred vision.
- b. Headaches.
- c. Weight gain.
- d. Heavy menstrual bleeding.

3. The nurse cares for a client with erectile dysfunction who is newly prescribed tadalafil. What medication does the nurse alert the provider that the client is already taking before the new prescription is filled?

- a. Intramuscular vitamin B12.
- b. Oral ibuprofen.
- c. Topical nitroglycerin.
- d. Oral metoprolol.

4. The nurse reviews a client's electronic health record in the early part of her first trimester of pregnancy. What lab values cause the nurse to suspect ectopic pregnancy?

- a. Low human chorionic gonadotropin.
- b. High thyroid stimulating hormone.
- c. High serum glucose.
- d. Low C-reactive proteins.

5. The nurse supports a client who just found out she is miscarrying at the fifth week of her pregnancy. What is the most likely cause for early pregnancy miscarriage?

- a. Diabetes.
- b. Blighted ovum.
- c. Smoking.
- d. Infection.

6. The nurse cares for a client who is being evaluated for possible preterm labor. What findings are suggestive of preterm labor? *Select all that apply.*

- a. Premature rupture of membranes at 36 weeks.
- b. Positive fetal fibronectin test at 24 weeks.
- c. Regular contractions and progressive dilation at 38 weeks.
- d. Advanced cervical dilation at 20 weeks.
- e. Regular contractions with advanced dilation at 36 weeks.

7. Place the cardinal movements in order of occurrence as the fetus passes through the birth canal.

- a. Expulsion.
- b. Extension.
- c. Descent.
- d. Flexion.
- e. External rotation.
- f. Restitution.
- g. Internal rotation.

8. The nurse monitors the contraction pattern of a client in labor. What pattern does the nurse document as dystocia?

- a. Regularly spaced strong contractions.
- b. Irregularly spaced weak contractions.
- c. Regularly spaced weak contractions.
- d. Rapid, extremely strong contractions.

9. Which image illustrates the client experiencing placenta abruption?

a.



b.



c.



10. The nurse cares for a client in labor diagnosed with placenta previa. Which degree of previa should the nurse anticipate as the least likely to result in the need for cesarean delivery?

- a. Total placenta previa.
- b. Partial placenta previa.
- c. Marginal placenta previa.
- d. Low-lying placenta.





NurseThink® Quiz Answers

1. The nurse assists a new mother in the care of her newborn who was delivered ten hours ago. Which stool sample does the nurse observe when changing the newborn's first diaper?

Answer: b.

Topic/Concept: Ch 5: Sexuality **Subtopic:** Newborn Care
Bloom's Taxonomy: Application **Clinical Problem-Solving Process:** Data collection **NCLEX®:** Basic Care and Comfort
QSEN: Evidence-Based Practice **CJMM:** Recognize Cues

Rationale: The first image is what is expected after the second day with a breastfed newborn. The second image is meconium, the expected first stool within 48 hours of birth. The third image is after the second day with a soy formula-fed newborn. The last image is after the second day with a formula-fed newborn.

THIN Thinking: *Clinical Problem-Solving Process* – Evaluating proper elimination patterns and expectations is imperative in identifying potential congenital abnormalities in the first days of life. If not addressed early on, these could lead to lifelong problems and injury.

2. The nurse evaluates a client prescribed combined oral contraceptives for family planning. What finding does the nurse report immediately?

- a. Blurred vision.
- b. Headaches.
- c. Weight gain.
- d. Heavy menstrual bleeding.

Topic/Concept: Ch 5: Sexuality **Subtopic:** Contraception
Bloom's Taxonomy: Application **Clinical Problem-Solving Process:** Implementation **NCLEX®:** Pharmacological Therapies **QSEN:** Patient-Centered Care **CJMM:** Evaluate Outcomes

Rationale: Although less common, the more serious side effects of combined oral contraceptives can be included in the mnemonic ACHES. Abdominal pain, chest pain, headaches (severe), eye problems (blurred vision), and swelling or aching in the legs and thighs.

THIN Thinking: *Top Three* – It is very important to identify serious side effects immediately and address them to prevent injury to the client. There are many serious side effects of oral contraceptives; even though not as common in those that do not smoke, they are still a risk that needs to be evaluated.

3. The nurse cares for a client with erectile dysfunction who is newly prescribed tadalafil. What medication does the nurse alert the provider that the client is already taking before the new prescription is filled?

- a. Intramuscular vitamin B12.
- b. Oral ibuprofen.
- c. Topical nitroglycerin.
- d. Oral metoprolol.

Topic/Concept: Ch 5: Sexuality **Subtopic:** Erectile Dysfunction
Bloom's Taxonomy: Application **Clinical Problem-Solving Process:** Planning **NCLEX®:** Pharmacological Therapies **QSEN:** Teamwork and collaboration **CJMM:** Prioritize Hypotheses

Rationale: Nitroglycerin and tadalafil can react and cause severe hypotension and shock when taken together, so the provider should be alerted to prevent injury. There are not severe side effects between tadalafil and metoprolol, vitamin B12, or ibuprofen.

THIN Thinking: *Identify Risk to Safety* – Understanding medication side effects can help prevent injury in a client. Drug interactions can be life-threatening in some instances.

4. The nurse reviews a client's electronic health record in the early part of her first trimester of pregnancy. What lab values cause the nurse to suspect ectopic pregnancy?

- a. Low human chorionic gonadotropin.
- b. High thyroid stimulating hormone.
- c. High serum glucose.
- d. Low C-reactive proteins.

Topic/Concept: Ch 5: Sexuality **Subtopic:** Pregnancy
Bloom's Taxonomy: Application **Clinical Problem-Solving Process:** Implementation **NCLEX®:** Physiological Adaptation
QSEN: Evidence-Based Practice **CJMM:** Analyze Cues

Rationale: Low human chorionic gonadotropin levels can indicate ectopic pregnancy and often do not increase as the pregnancy advances. Thyroid hormones indicate thyroid problems, glucose levels can indicate gestational diabetes, and C-reactive proteins can indicate inflammatory illnesses like systemic lupus erythematosus.

THIN Thinking: *Clinical Problem-Solving Process* – Lab values should be monitored because they can help dictate proper treatment and identify problems that need to be treated.

5. The nurse supports a client who just found out she is miscarrying at the fifth week of her pregnancy. What is the most likely cause for early pregnancy miscarriage?

- a. Diabetes.
- b. Blighted ovum.
- c. Smoking.
- d. Infection.

Topic/Concept: Ch 5: Sexuality **Subtopic:** Miscarriage
Bloom's Taxonomy: Analysis **Clinical Problem-Solving Process:** Evaluation **NCLEX®:** Reduction of Risk Potential
QSEN: Patient-Centered Care **CJMM:** Prioritize Hypotheses

Rationale: The most likely cause of early pregnancy miscarriage is blighted ovum. Other causes can include smoking, infection, and uncontrolled diabetes, but these are not as prevalent as a blighted ovum.

Circulation

Perfusion / Clotting

This chapter addresses conditions that impair or damage circulation, including perfusion and clotting disorders. The human body relies on the cardiovascular system to circulate blood through the body to provide oxygen and nutrients to the tissues and take away waste products.

Next Gen Clinical Judgment

Priority focused assessments are an essential part of nursing practice and clinical judgment. Recognizing cues quickly and responding accordingly are central to nursing care. Find a mirror and note three assessment findings that indicate you have effective central perfusion (e.g. brain, heart, and renal). Observe two of your limbs for effective peripheral perfusion. Now try this out with a friend. Remembering these basics of perfusion can help with many exam questions.

Nurses play a significant role in assessing for changes in circulation and perfusion, anticipating changes in clotting and circulation, and providing interventions to enhance or restore circulation.

Priority Exemplars:

- Hypertension
- Pulmonary embolism (PE)
- Stroke – cerebrovascular accident (CVA)
- Heart failure
- Shock
- Cardiomyopathy
- Coronary artery disease (CAD)
- Myocardial infarction (MI)/acute coronary syndrome
- Peripheral artery disease (PAD)
- Valvular heart disease
- Buerger's/Raynaud's
- Venous thromboembolism (VTE)
- Disseminated intravascular coagulation (DIC)





Go To Clinical Case 1

A 58-year-old male client is being admitted for observation. His current blood pressure is 190/110 mmHg. He had previously been advised to monitor his blood pressure but was never given an actual diagnosis. The client is a former smoker, as he quit about a year ago. He has a past medical history of diabetes mellitus and obesity (BMI of 28.8). His family medical history includes a grandfather diagnosed with heart disease in his early 50s, and his mother has a diagnosis of hypertension.

The client went to the doctor today for a routine physical exam. It had been a year since his last doctor's visit. He states, "he feels fine" and did not have any indication that anything was wrong. He currently lives with his wife and two teenage children. He works in a corporate setting, which he describes as

"stressful". He does not follow a special diet and rarely exercises. He does take the stairs "once in a while" when going between floors at work. He typically eats out for lunch.

His additional vital signs include a temperature of 98.9°F, respirations at 14 breaths/minute, and a pulse of 92 beats per minute. He states he is in no pain currently.

NurseThink® Time



Using the NurseThink® system, complete the priorities. Check your answers designated by  in the Hypertension Priority Exemplar.



 Priority Data Collection or Cues

- 1.
- 2.
- 3.

 Priority Laboratory Tests/Diagnostics

- 1.
- 2.
- 3.

 Priority Interventions or Actions

- 1.
- 2.
- 3.

 Priority Potential & Actual Complications

- 1.
- 2.
- 3.

 Priority Nursing Implications

- 1.
- 2.
- 3.

 Priority Medications

- 1.
- 2.
- 3.

 Reinforcement of Priority Teaching

- 1.
- 2.
- 3.

Hypertension

Pathophysiology/Description

- High blood pressure associated with genetic, physiological, and lifestyle factors
- May be primary or secondary
- Related to water and sodium retention, altered renin-angiotensin-aldosterone mechanism, stress and increased sympathetic nervous system activity, insulin resistance and hyperinsulinemia, and endothelium dysfunction

Priority Data Collection or Cues

- ✔ Check blood pressure in both arms and note differences. Check for orthostatic changes in blood pressure
- Use the correct size cuff, allow one minute between readings, and ensure that the arm is at the level of the heart
- Although associated with few symptoms, ask about headaches, epistaxis, fatigue, angina, dizziness, anxiety, visual disturbances, or dyspnea
- ✔ Determine client's age and ethnicity, ask about family history, stress, and related medical history (diabetes, hypercholesterolemia)
- Determine weight and BMI (Body mass index)
- ✔ Discuss lifestyle including cigarette smoking, sodium intake, alcohol intake, level of activity and exercise, sedentary habits, and usual diet

Priority Laboratory Tests/Diagnostics

- ✔ Routine urinalysis, BUN and creatinine/creatinine clearance
- ✔ Basic metabolic panel/CBC
- ✔ Lipid profile
- ECG

Priority Interventions or Actions

- ✔ Weight reduction, low sodium diet, DASH diet (high in fruits and vegetables, low-fat meats and milk products, few sweets and added sugars)
- Smoking cessation and reduction in alcohol and caffeine intake
- ✔ Physical activity and stress management
- ✔ Antihypertensive medications

Priority Potential & Actual Complications

- ✔ Coronary artery disease, left ventricular hypertrophy, and heart failure
- ✔ Cerebrovascular disease and CVA (stroke)
- Peripheral vascular disease, nephrosclerosis, and retinal damage
- ✔ Hypertensive crisis

Priority Nursing Implications

- ✔ Assist with major lifestyle changes
- ✔ Reinforce need for treatment despite absence of symptoms

Priority Medications

- ✔ Hydrochlorothiazide
 - May be given orally or intravenous
 - Do not increase potassium in diet with HCTZ but increase if on a potassium-wasting diuretic
 - Orthostatic hypotension
- ✔ Atenolol
 - May be given orally or intravenous
 - Monitor pulse and blood pressure
 - Contraindicated with asthma or COPD-bronchoconstriction
- ✔ Lisinopril
 - ACE inhibitors (end in -pril)
 - Usually taken orally
 - Dry, hacking cough
 - NSAIDs and ASA may reduce effectiveness
 - Not with K⁺ sparing diuretics
- Nifedipine, verapamil
 - Calcium channel blockers
 - Given orally or intravenous
 - Monitor for headache, edema, and hypotension

Reinforcement of Priority Teaching

- Watch for orthostatic hypotension and risk for falls
- ✔ Monitoring of blood pressure at home, using proper technique with automated device
- ✔ Life-long treatment, adherence to medication regimen, and life style changes
- ✔ Contact HCP before using OTC medications

Go To Clinical Answers

Text designated by ✔ are the top answers for the Go To Clinical related to Hypertension.

Next Gen Clinical Judgment

Why is hypertension called the “silent killer?”

What are the complications of untreated hypertension?

How might the lack of symptoms of hypertension impact client adherence to medication regimens?

Pulmonary embolism (PE)

Pathophysiology/Description

- Occlusion of the pulmonary arteries by a thrombus, fat, or air embolus, or tumor
- Emboli are frequently mobilized from deep vein thrombosis (DVT), in the lower extremities, large emboli from the iliac and femoral veins are most lethal. May also originate in the heart secondary to atrial fibrillation
- Fat emboli are from long bone fractures and air emboli from intravenous administration
- Emboli may travel through the circulatory system until they become wedged in a vessel, obliterating blood flow to the area
- With PE, the embolus travels through venous systems and into the pulmonary circulation and cuts off the blood supply to the alveoli, most often in the lower lobes

Priority Data Collection or Cues

- Ask about risk factors including advanced age, pregnancy, oral contraceptives/hormone therapy, prolonged air travel, surgery, reduced activity, or immobility, tobacco use, heart failure, clotting disorders, DVTs, cancer, obesity, and trauma
- Determine respiratory status including dyspnea (may be associated with angina, increased on inspiration), hypoxemia, cyanosis, tachypnea, chest pain, cough, crackles, hemoptysis, wheezing, shallow respirations
- Monitor vital signs such as accentuated pulmonic heart sound, tachycardia, hypotension, pulse oximetry, and low-grade fever
- Monitor level of consciousness and for syncope, check for pain and anxiety, restlessness, or apprehension
- Check for petechiae in axillae or chest

Priority Laboratory Tests/Diagnostics

- D-Dimer-fibrin fragments-may not be specific nor sensitive to PEs
- Spiral CT scan with contrast
- Ventilation-perfusion (V/Q) scan-perfusion/ventilation scanning
- Pulmonary angiography
- Arterial blood gases, CXR, ECG

Priority Interventions or Actions

- Prophylaxis including pneumatic compression boots, early ambulation, anticoagulant medications
- Provide oxygen and ventilation, prevent atelectasis
- Anticoagulant therapy
- Surgical intervention if unstable or fibrinolytic therapy contraindicated
- Inferior vena cava filter, for at-risk clients

Priority Nursing Implications

- Nurses have a significant role in identifying those at risk and in the prevention of DVT
- Prognosis is better with early intervention
- When PE is a medical emergency, contact the Rapid Response Team as per agency protocol
- Elevate the head of the bed to ease respirations
- Ensure intravenous access
- Provide care to minimize effects of immobility including turning, positioning, pad pressure areas, frequent assessments
- Place at-risk clients on fall precautions
- Provide emotional support, clients may feel a sense of doom or anxiety

Priority Medications

- Enoxaparin
 - Anticoagulant-administered subcutaneously
 - Low-molecular weight heparin
 - Check for bleeding, hematomas, other sources of bleeding
- Heparin
 - Anticoagulant-administered subcutaneously
 - Monitor aPTT (normal 25-35 seconds, on heparin-1.5-2.5 times the normal)
 - Bleeding precautions
 - Antidote-protamine sulfate
- Warfarin
 - Anticoagulant-administered orally
 - Overlap with intravenous heparin
 - Warfarin for 3-6 months
 - Monitor INR (0.9-1.1 not on anticoagulants, 2-3 on warfarin, 2.5-3.5 for high-risk clients)
 - Antidote-Vitamin K (effects are not immediate)
- Tissue plasminogen activator (tPA)
 - Thrombolytic to dissolve current thrombi/emboli
 - Within 3 hours of event, check for contraindications
 - Given intravenously
- Rivaroxaban
 - Novel oral anticoagulant
 - No lab monitoring needed
 - Observe for bleeding

Reinforcement of Priority Teaching

- Education and support for clients on anticoagulants
- Ensure that client and support systems understand the risk for and means to prevent DVTs and future PEs
- Means and frequency of monitoring anticoagulants
- Encourage progressive activity and exercise program
- Limit Vitamin K foods while on warfarin

Heart failure

Pathophysiology/Description

- Inadequate pumping/filling of the heart, insufficient blood to meet the oxygen needs of tissues. Impaired cardiac output from changes in preload, afterload, contractility, and heart rate
- Related to untreated or prolonged hypertension, coronary artery disease, myopathies and history of myocardial infarction, also age and health of the ventricles
- Related to advanced age, obesity, high serum cholesterol, and tobacco use
- Described as systolic, diastolic, or mixed failure or left and right failure
 - Left-sided failure-fluid in lung tissue/pleural circulation
 - Right-sided failure-fluid in the periphery/systemic circulation

Priority Data Collection or Cues

- Vital signs. Watch for increased respiratory rate, increased heart rate (compensate for clients on beta-blockers), monitor for hypotension (increased tissue perfusion or medication side effects) and hypertension (anxiety/history)
- Increased respiratory effort, cough (early sign), later-productive cough of blood-tinged sputum; breath sounds-decreased sounds, crackles, wheezes, sonorous wheeze
- Edema may be dependent/peripheral, ascites, pulmonary edema/pleural effusion, pitting edema (1 kg. weight/1 liter fluid), check perfusion in edematous extremities
- Health history may include: orthopnea (may experience paroxysmal nocturnal dyspnea), shortness of breath with exertion (dyspnea), levels of fatigue, history of nocturia, chest pain, or rapid fluid weight gain
- Appearance such as anxiety, pallor, cyanosis, confusion, restlessness

Priority Laboratory Tests/Diagnostics

- BNP (brain natriuretic protein levels)
- Chest X-ray/arterial blood gases in acute phase
- ECG may show hypertrophy
- Cardiac ultrasound/cardiac catheterization
- Endomyocardial biopsy
- Ejection fraction studies

Priority Interventions or Actions

- Oxygen, elevate head of bed to relieve dyspnea
- Monitor vital signs, ECG, oxygen saturation, urine output, daily or more frequent weights
- Cardiac rehabilitation, rest
- Low sodium diet, with possible fluid restrictions
- Support and counseling for depression and anxiety

Priority Potential & Actual Complications

- Respiratory Distress secondary to pleural effusion
- Cardiac dysrhythmias, Cardiogenic shock, Cardiopulmonary failure
- Skin breakdown with edema
- Left ventricular thrombus
- Hepatomegaly
- Renal failure

Priority Nursing Implications

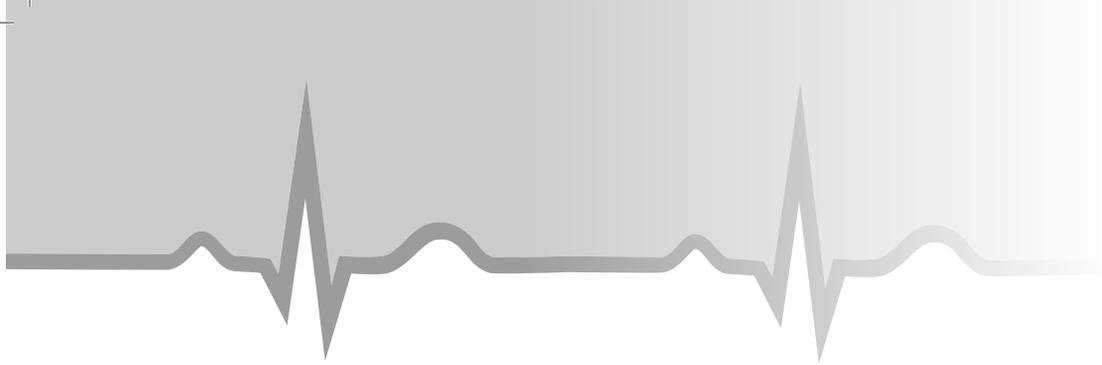
- Monitor hydration status, provide fluid restrictions if prescribed
- Comfort interventions and skin care with edema, elevate legs to relieve edema, use of compression stockings
- Encourage a low-sodium, adequate potassium diet
- Provide a calm environment, reduce anxiety
- Manage other cardiac diseases as needed

Priority Medications

- Digoxin
 - Slows heart rate and strengthen contractility
 - Apical pulse for one minute prior to administration-hold for low heart rate (< 60 bpm for adults, <100 bpm for infants, as prescribed by health care provider for children)
 - Monitor for signs of digoxin toxicity
 - Administered orally
- Furosemide
 - Diuretic-reduce fluid volume
 - Monitor output-diuresis
 - Serum potassium level, supplement may be needed
 - Administered orally, IM or intravenous
- Potassium chloride
 - Potassium supplement-administered orally
 - Monitor lab work

Reinforcement of Priority Teaching

- Watch for FACES including fatigue, limitation of activity, cough and congestion, edema, and shortness of breath and based on client understanding
- Using oxygen at home including safe oxygen use
- Eat a potassium-rich/low sodium food each day
- Plan for rest periods and spread out activities
- Monitor weigh daily using same scale and similar clothes at similar times of day. Report if weight increases 3+ lbs
- Check with health care provider when considering over-the-counter medications and herbal preparations
- Fall prevention and accessing emergency assistance



Go To Clinical Cases – Patient Assignments

Chapter 5: Sexuality

Case 1: Hypertensive Disorders of Pregnancy

Case 2: Newborn Care

Chapter 6: Circulation

Case 1: Shock

Case 2: Heart Failure

Chapter 7: Protection

Case 1: Meningitis

Case 2: Pancreatitis

Chapter 8: Homeostasis

Case 1: Overhydration/Fluid Overload

Case 2: Dehydration/Fluid Deficit

Chapter 9: Respiration

Case 1: Chronic Obstructive Pulmonary Disease

Case 2: Cystic Fibrosis

Chapter 10: Regulation

Case 1: Hydrocephalus

Case 2: Blood-borne Cancers

Chapter 11: Nutrition

Case 1: Inflammatory Bowel Disease:
Crohn's Disease/Ulcerative Colitis

Case 2: Cleft Lip and Palate

Chapter 12: Hormonal

Case 1: Diabetic Ketoacidosis

Case 2: Diabetes Mellitus Type 2

Chapter 13: Movement

Case 1: Cerebral Palsy

Case 2: Seizures

Chapter 14: Comfort

Case 1: Pressure Ulcers

Case 2: Burns

Chapter 15: Adaptation

Case 1: Eating Disorders

Case 2: Post-traumatic Stress Disorder (PTSD)

Chapter 16: Emotions

Case 1: Anxiety Disorders

Case 2: Schizophrenia

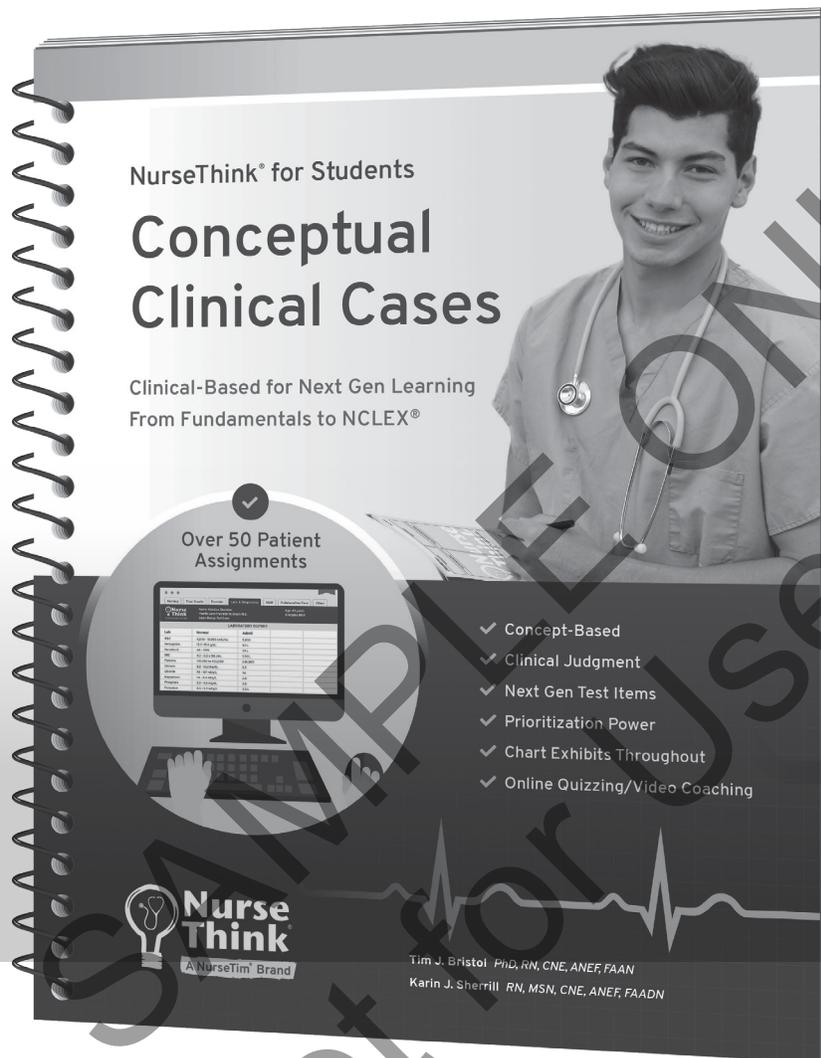
Chapter 17: Cognition

Case 1: Delirium

Case 2: Dementia/Alzheimer's Disease

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