

Detailed Content Outline for the Clinical Transplant Coordinators Examination

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	Recall	Application	Analysis	Total
I. EVALUATION AND PREPARATION FOR TRANSPLANT	30	30	22	82
Setting: The Clinical Transplant Coordinator collects and evaluates existing data, and recommends obtaining additional data to determine the suitability of potential transplant recipients and donors. The Coordinator maintains the Wait List and prepares the transplant recipient candidate and/or live donor for organ transplantation by reinforcing previous instruction and assisting with medical preparation.				
A. Education	10	7	3	20
1. Instruct on risks, benefits, alternatives of transplantation and live donation				
2. Review indications and contraindications of transplantation and live donation				
3. Emphasize the importance of commitment for the				
a. candidate to long-term post-transplant follow-up				
b. live donor to long-term follow-up				
4. Discuss with the potential live donor and/or transplant candidate the				
a. evaluation/selection process (e.g., medical, psychosocial, financial)				
b. donor organ and recipient matching and distribution process				
c. expanded donor criteria				
d. expected emotional reactions				
e. transplant recipient and live donor surgical procedures				
f. potential transplant drug regimen and effects				
g. signs/symptoms of infection and organ rejection				
h. diagnostic surveillance of rejection and infection				
i. potential short-term and long-term complications				
j. roles of multi-disciplinary transplant team personnel				
k. patient and graft survival				
l. financial issues				
m. donor/recipient confidentiality				
5. Identify and respond to educational needs of the candidate, live donor, or support system				
B. Data Collection and Evaluation, and Recommendations	3	5	7	15
1. Review				
a. history and physical				
b. social and financial history				
2. Schedule, obtain, and review				
a. laboratory data (e.g., histocompatibility, serology)				
b. diagnostic studies (e.g., radiology, pathology)				
3. Recommend consultations (e.g., infectious disease, psychosocial, dietary)				
C. Suitability Assessment and Preparation of the Potential Transplant Candidate and Live Donor	7	7	1	15
1. Identify medical, psychosocial, and economic findings that determine donor and/or candidate suitability and adherence				
2. Present findings and make recommendations to the transplant team regarding donor and/or candidate suitability				
3. Communicate the team's recommendations to a candidate and/or live donor (e.g., behavior modification, social/financial issues)				
4. Facilitate				
a. additional procedures and tests based on the team's recommendations (e.g., CT scan, cholecystectomy, arteriogram)				
b. scheduling of a potential candidate for protocols as indicated (e.g., desensitization, incompatible ABO)				

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	Recall	Application	Analysis	Total
D. Candidate/Deceased Donor Selection Criteria	2	4	6	12
1. Review, evaluate and present donor organ information (e.g., anatomy, preservation time and technique, organ condition, medical and social history) to the physician				
2. Participate in the decision regarding organ acceptance/rejection and assist with recipient selection according to OPTN regulations				
3. Follow transplant center protocol to exclude potential donor organs				
4. Review potential recipient's current medical and crossmatch status with physicians				
5. Verify candidate's acceptance of an expanded donor criteria organ				
E. Donor and Candidate Preoperative and Intraoperative Care	4	2	0	6
1. Notify staff in appropriate departments (e.g., pre-operative area, ICU, blood bank, admissions) of a potential transplant				
2. Arrange preoperative procedures (e.g., dialysis, x-rays, final crossmatch)				
3. Provide instruction to the live donor and/or candidate (e.g., timing/order of surgical procedures, surgical consent, back-up status)				
F. Wait List Management	4	5	5	14
1. List and maintain a candidate per OPTN policies				
2. Verify listing documentation for accuracy				
3. Maintain effective communication with patient and local care provider				
4. Ensure and review updated diagnostic and lab results				
5. Recognize potential problems and/or changes in eligibility criteria during the waiting period				
6. Amend candidate status as indicated				
7. Maintain current sera as indicated (e.g., PRA, HLA tissue typing)				
II. POST-TRANSPLANT CARE	18	32	18	68
Setting: The Clinical Transplant Coordinator monitors, evaluates, and reports postoperative organ function and complications for the live donor and transplant recipient. The Coordinator provides discharge instruction, coordinates post-transplant follow-up care, monitors patient status, and facilitates the physical, social, and emotional rehabilitation of the patient.				
A. Education	8	12	3	23
1. Identify and respond to educational needs of a recipient and support system				
2. Instruct a transplant recipient and support system about				
a. the transplant drug regimen and effects				
b. signs/symptoms of infection and organ rejection				
c. diagnostic surveillance of rejection and infection				
d. potential short-term and long-term complications				
e. transplant team personnel, roles, and available support services				
f. patient and graft survival				
g. available financial resources				
h. ongoing health maintenance (e.g., cancer screening, bone health, behavior modification, nutrition)				
i. recording data (e.g., temperature, BP, weight)				
j. the frequency of follow-up visits and laboratory studies				
k. reporting abnormalities to transplant center/primary care provider				
3. Instruct a live donor and support system about				
a. immediate post surgical care (e.g., wound care, activity limitations, pain management)				
b. follow-up recommendations				
c. reporting abnormalities to transplant center/primary care provider				

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B. Postoperative Organ Function Monitoring, Evaluation, and Reporting	10	20	15	45
1. Interpret and report abnormalities in				
a. pertinent physical examination findings (e.g., vital signs, fluid balance)				
b. lab values (e.g., drug levels, electrolyte levels)				
c. diagnostic tests (e.g., PFTs, echocardiogram, radiology, endoscopy, pathology)				
2. Assess for complications				
a. surgical (e.g., thrombosis, stenosis, hemorrhage)				
b. medical (e.g., myocardial infarction, cardiovascular event)				
c. immunologic (e.g., rejection, infection)				
d. psycho-social issues (e.g., depression, anxiety)				
e. adverse effects of the drug regimen				
f. long-term (e.g., recurrent disease, chronic rejection, malignancy)				
3. Confer with the patient's health care provider to determine interventions for complications				
4. Assess need and arrange for				
a. additional laboratory and/or diagnostic studies				
b. follow-up clinic visits				
c. home health care				
d. consultation (e.g., social work, psychologist)				
e. outpatient therapies				
f. hospital admission				
g. medication renewal (e.g., PA forms, medicine change for insurance reasons)				
5. Refer recipient for emergency evaluation and treatment				
6. Report required data to the OPTN/UNET				
7. Facilitate appropriate sharing of information regarding the recipient (e.g., primary care provider, case managers)				
8. Respond to recipient or family inquiries regarding the donor				
9. Evaluate recipient's adherence with the treatment regimen				
10. Reinforce and facilitate health maintenance (e.g., cancer screening, behavior modification)				
11. Facilitate a return to optimal health status				
Totals	48	62	40	150

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	Recall	Application	Analysis	Total
I. PLAN, CONDUCT, AND EVALUATE	2	8	11	21
Setting: The Procurement Coordinator performs an assessment to determine barriers to, and opportunities for, increasing donation. The Coordinator determines information needs of target populations and programs to increase donation awareness. The Coordinator conducts and evaluates specific activities to develop and improve donation rates.				
A. Public Education Activities	0	1	1	2
1. Increase public awareness of organ donation				
2. Evaluate donor awareness activities by reviewing trends in consent rates				
B. Hospital Services	2	7	10	19
1. Determine hospital donor potential				
a. conduct medical record review or use a proxy				
b. review referral activity				
2. Establish and analyze hospital performance goals (e.g., timely referral, referral rate, conversion rate, consent rate, organs transplanted per donor)				
3. Establish with hospital staff clinical triggers for timely referrals of all potential donors				
• Brain Dead • Donation after Cardiac Death				
4. Survey key hospital staff to determine attitudes and knowledge regarding donation				
5. Create, implement, and modify specific hospital action plans				
6. Maintain hospital profiles with key information (e.g., organizational chart, number of beds, critical care beds, services, policies)				
7. Identify and support organ donation champions at various levels including leaders who are willing to be called on to overcome barriers to organ donation in real time				
8. Compare hospital performance to other hospitals in the region and national benchmarks				
9. Build and maintain the necessary collaborative relationships with key hospital staff/physicians at all levels that impact the donation process				
10. Create and maintain a consistent visual hospital presence				
11. Plan and conduct improvement activities (e.g., grand rounds, inservices, policy and procedures, hospital orientations and hospital medical staff meetings, donation councils)				
12. Provide hospital based education, and target core curriculum/education to staff (e.g., donor advocacy, bereavement care, certified requester, critical care)				
13. Determine the impact of other recovery agencies on the donation process (e.g., eye/tissue bank, other OPOs)				
14. Maintain a formal process for comprehensive immediate follow-up communication (e.g., post-donor case conference, written follow-up, unit visits, evaluation forms) between OPO and hospital on activity (e.g., donors, referrals, approaches)				
15. Provide regular reports of hospital donation outcomes to all key hospital staff (e.g., dashboards, compliance reports, annual reports)				
16. Encourage a strong culture of accountability for donor outcomes				
II. EVALUATE AND MANAGE A POTENTIAL DONOR	20	34	38	92
Setting: The Procurement Coordinator conducts screening to determine suitability for donation. The Coordinator ensures effective communication with appropriate individuals (e.g., families and professional staff) involved in the donation process. The Coordinator recommends, performs, and documents appropriate intervention to optimize organ function in a critical care setting.				
A. Determination of the Highest Priority for Legal Consent	4	7	4	15
1. Determine registry donor status (e.g., first person consent, donor registry, donor card)				

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	Items			Total
	Recall	Application	Analysis	
2. Inform family and hospital staff of donor designation and subsequent donation process				
3. Identify				
a. the legal next of kin in the absence of a donor designation to obtain consent				
b. key individuals (e.g., family, friends, clergy, physician) involved in consent and end-of-life decisions				
4. Assess family dynamics, availability of hospital support system and determine family needs (e.g., cultural, religious, physical, emotional)				
5. Plan and coordinate the consent approach in collaboration with hospital and medical staff according to hospital and/or OPO protocol (i.e., determine effective requestor)				
6. Confirm a family's				
a. understanding of brain death				
b. decision to withdraw support (e.g., DCD)				
7. Coordinate the donation request by providing information for an informed decision (e.g., disfigurement, time factors, autopsy, cost)				
8. Support				
a. the family decision and document outcome				
b. hospital personnel as needed				
9. Offer family follow-up information (e.g., bereavement support, communications, contact numbers)				
B. Required Documentation	8	9	0	17
1. Record the outcome of donor referral				
• donor • no consent • medically unsuitable				
2. Confirm				
a. legal and hospital requirements for death declaration are present (e.g., declaring physician's signature, confirmatory examinations, date, time)				
b. a properly executed consent form (e.g., next of kin, highest priority of consent, directed donation) or donor disclosure form (e.g., donor registry card, signed donor card)				
3. Complete the				
a. history questionnaire (e.g., medical, social, behavioral, admission)				
b. confidential donor chart (e.g., ABO verifications per OPTN, lab data, serologies, hemodynamics, hemodilution status)				
c. billing and expense information				
C. Data Evaluation Pertinent to Potential Organ Donation	4	8	14	26
1. Determine suitability for DCD based on OPO policy				
2. Obtain and disclose current and past medical and behavioral history (e.g., medications, risk factors, surgeries)				
3. Document pre-hospital and hospital course (e.g., down-time, injuries, hemodynamics, infection status)				
4. Perform bedside assessment (e.g., ventilator settings, vital signs, physical findings, neurologic examination)				
5. Obtain				
a. tissue typing samples (e.g., lymph node excision, peripheral blood)				
b. laboratory values (e.g., CBC, serologies, electrolytes, organ function tests, culture results)				
6. Review diagnostic procedure results (e.g., cardiac, pulmonary, pathology)				
7. Determine organ suitability (e.g., OPO administrator/medical director, transplant physician)				

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	Items			
	Recall	Application	Analysis	Total
D. Evaluation, Recommendation, and Implementation of Interventions	4	10	20	34
1. Optimize donor status				
a. hemodynamic (e.g., I/O, lab values, CVP, CO, vasopressor support, hormone therapy)				
b. pulmonary (e.g., ABGs, chest x-ray, ventilatory modes and settings)				
2. Assess infection status (e.g., CBC, cultures, Gram stain, body temperature, antibiotics, positive serologies)				
3. Identify and treat syndromes and disorders (e.g., diabetes insipidus, coagulopathy)				
III. FACILITATE ORGAN ALLOCATION, RECOVERY, AND PRESERVATION	10	17	10	37
Setting: The Procurement Coordinator facilitates and documents organ allocation in compliance with OPTN requirements. The Coordinator ensures optimal organ recovery and preservation, and completes required documentation.	10	17	10	37
A. Organ Allocation Process	5	8	0	13
1. Register all donors with OPTN				
2. Adhere to established local, regional, and national sharing policies				
3. Complete required documentation (e.g., match-run list, Deceased Donor Registration)				
4. Arrange for transportation (e.g., personnel, organs)				
5. Provide required documentation to agencies (e.g., transplant centers, OPTN, tissue recovery, medical examiners)				
B. Organ Recovery and Preservation	5	9	10	24
1. Ensure				
a. donor stability during transport to the OR (e.g., IV line patency, oxygenation, vital signs)				
b. necessary surgical personnel and supplies are present				
c. aseptic technique is utilized (e.g., donor prep, organ packaging, preservation)				
2. Support OR and anesthesia staff (e.g., management and documentation guidelines, scrub and assist during recovery)				
3. Coordinate the activity and interaction of the recovery team(s)				
4. Facilitate organ preservation (e.g., solutions, equipment, ice, pulsatile preservation)				
5. Document data associated with organ recovery (e.g., anatomy, flush, cross-clamp, warm time, biopsies, operative note)				
6. Ensure all organs and specimens are obtained, packaged, and labeled in accordance with current OPTN requirements (e.g., lymph nodes, spleen, blood, vessels)				
7. Complete post-mortem care				
8. Notify agencies and individuals of case completion (e.g., tissue agency, family, funeral home, Medical Examiner)				
Totals	32	59	59	150

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	Items			Total
	Recall	Application	Analysis	
I. PRETRANSPLANTATION CARE	6	12	6	24
A. Evaluate Objective Measures of End-Stage Organ Failure Secondary Specifications – Do not exceed 1 item for any one organ listed in this section.	1	2	1	4
1. Vital signs and/or hemodynamic parameters				
2. Lab values				
3. Radiology tests				
4. Physical assessment				
B. Monitor Subjective Complaints of a Patient Awaiting Transplantation for Signs of Worsening Failure Including	1	3	2	6
1. Kidney (e.g., edema, nausea, fatigue, mental status changes, pruritis)				
2. Liver (e.g., ascites, bruising, jaundice, confusion)				
3. Pancreas (e.g., nausea, vision changes, numbness/tingling in extremities)				
4. Heart (e.g., shortness of breath, decreased appetite, fatigue, difficulty sleeping, edema)				
5. Lung (e.g., shortness of breath, decreased appetite, increased anxiety)				
6. Intestine (e.g., weight loss, diarrhea, abdominal pain)				
C. Provide Education to a Patient Awaiting Transplantation Including	2	4	2	8
1. Post-operative course (e.g., length of stay, incentive spirometer use)				
2. Lines that will be inserted (e.g., IV, urinary catheter, arterial line, chest tube, pacing wires, endotracheal tube, nasogastric tubes)				
3. Incision care				
4. Pain management plan				
5. Activity limitations, lifestyle and body image changes				
6. Medications and side effects				
7. Importance of patient compliance with post-operative care plan				
8. Explanation of pre-operative tests/procedures (e.g., echocardiogram, pulmonary function test, radiology procedures)				
D. Prepare Pre-Transplant Patient for Surgery by	2	3	1	6
1. Answering questions from the patient/family regarding the transplant procedure				
2. Addressing cultural and psychosocial concerns (e.g., blood products, religious practices related to transplant/medical care/diet, anxiety)				
3. Providing emotional support				
4. Obtaining preoperative tests/procedures (e.g., CXR, lab work, cultures, and ECG)				
5. Administering medications and surgery preparations as ordered				
6. Ordering and administering blood products as ordered				
II. POSTTRANSPLANTATION MONITORING AND MAINTENANCE	17	34	29	80
A. Evaluate Objective Criteria Including	2	5	4	11
1. Vital signs				
2. CVP measurements				
3. Telemetry and epicardial pacemaker				
4. Pulmonary artery catheter measurement (e.g., CO, CI, SVR, PVR, PA wedge)				
5. Drainage output (e.g., surgical drains, ostomy, chest tube, incision dressing, NG)				
6. Intake and output				
7. Daily weights				
8. Pain management				
9. Neurological status assessment				
10. Hypovolemia/graft hypoperfusion (e.g., excessive drainage or bleeding, hypotension, tachycardia, pallor, hypoxia, oliguria)				
11. Bleeding and hematoma				
B. Monitor Laboratory Results Secondary Specifications- Do not exceed 2 items for any one organ listed in this section.	2	4	2	8
1. Observe for evidence of primary graft nonfunction				
a. kidney (e.g., BUN, creatinine, sodium, potassium, magnesium, phosphorus)				
b. liver (e.g., liver enzymes, coagulation studies, lactate, glucose, bilirubin)				

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c. pancreas (e.g., glucose, amylase, lipase, bicarbonate)				
d. heart (e.g., sodium, potassium, magnesium, natriuretic peptide levels)				
e. lung (e.g., blood gases, coagulation studies)				
f. intestine (e.g., albumin)				
2. Observe for evidence of other postoperative complications				
a. bleeding (e.g., Hgb, Hct)				
b. infection (e.g., CBC with differential, sedimentation rate, CRP cultures)				
C. Monitor Graft Function for Complications Secondary Specifications – Do not exceed 3 items for any one organ listed in this section.	3	7	5	15
1. Hyperacute rejection				
2. Kidney recipients				
a. urinary output				
1) ensure catheter patency while monitoring for bleeding, clots, bladder distension, and urine output				
2) irrigate bladder as needed and directed by a physician				
b. urine leaks				
c. ATN				
d. lymphoceles				
3. Liver recipients				
a. vascular thrombosis				
b. bile duct complications (e.g., leaks, stricture, stenosis)				
c. ascites and pleural effusion				
d. intestinal perforation				
4. Pancreas recipients				
a. pancreatitis				
b. vascular thrombosis				
c. cystitis				
5. Heart recipients				
a. arrhythmias				
b. low cardiac output				
c. ventricular failure				
d. pericardial or pleural effusion				
6. Lung recipients				
a. pneumothorax				
b. bronchial anastomosis complications (e.g., stenosis, leak)				
c. pleural effusion				
D. Identify Potential Complications and Appropriate Interventions	3	7	5	15
1. Impaired wound healing				
a. report signs (e.g., purulent drainage, edge separation, redness, necrosis, dehiscence)				
b. intervene as ordered by a physician (e.g., wound care, enzymatic debridement, antibiotics)				
c. collaborate with multidisciplinary team (e.g., physical therapist, wound-care nurse, nutritionist, home-health nurse)				
2. Fluid and electrolyte imbalance				
a. report signs (e.g., poor skin turgor, daily weight and vital sign changes, dry mucous membranes, decreased urine output, weakness, mental status changes, muscle aches, dyspnea, rales, edema, distended neck veins, ascites, abnormal lab values)				
b. intervene as ordered by a physician (e.g., daily weights, replace urine output with IV fluids, replace electrolytes PO or IV)				
c. collaborate with multidisciplinary team (e.g., nutritionist, physical therapist)				
3. Hypo- and hyperglycemia				
a. report signs (e.g., cool and clammy skin, diaphoresis, mental status changes, palpitations, polyuria, polydipsia, fatigue, blurred vision)				

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b. intervene as ordered by a physician (e.g., perform capillary blood glucose measurements, administer glucose or insulin, offer carbohydrates)				
c. collaborate with multidisciplinary team (e.g., diabetes educator, nutritionist, home-health nurse)				
4. Hypo- and hypertension				
a. report signs (e.g., vital sign changes, level of consciousness, dizziness)				
b. intervene as ordered by a physician (e.g., administer PO / IV vasoactive drugs, fluid boluses, blood products, limit activities)				
c. evaluate response to interventions (e.g., increased VS monitoring frequency)				
5. Altered bowel function				
a. report signs (e.g., abdominal distension and pain, frequency and consistency of bowel movements, stoma condition)				
b. intervene as ordered by a physician (e.g., increase activity, encourage adequate fluid and fiber intake)				
c. evaluate response to laxative of choice, GI stimulants, suppositories, stool softeners, and/or enemas				
d. assess for causes of altered bowel function (e.g., review medications, patient activity)				
6. Altered nutrition				
a. report signs (e.g., low serum albumin, appetite and weight changes)				
b. intervene as ordered by a physician (e.g., calorie counts, enteral and parenteral nutritional supplements)				
c. collaborate with the multidisciplinary team (e.g., nutritionist, ancillary nursing staff)				
7. Altered mobility / self-care deficit				
a. report signs (e.g., incentive spirometer volumes, level of independence with ADL and ambulation)				
b. intervene as ordered by a physician (e.g., activity restrictions, encourage/assist with mobility, involve family)				
c. collaborate with the multidisciplinary team (e.g., Physical, Occupational, Speech, and Respiratory Therapy)				
E. Evaluate Graft Rejection Secondary Specifications – Do not exceed 3 items for any one organ listed in this section.	2	5	7	14
1. Post-Biopsy Monitoring				
a. monitor the recipient in the immediate post-biopsy period for				
1) vital signs changes				
2) bleeding externally from the site or internally (e.g., hematoma, hematuria)				
3) pain				
4) activity limitations instructions and enforcement				
b. monitor for organ-specific biopsy complications				
1) kidney (e.g., hematuria)				
2) liver (e.g., abdominal pain, fever, blood in bile drainage)				
3) heart (e.g., dysrhythmia)				
4) lungs (e.g., pneumothorax, decreased pulse oximetry)				
c. educate a patient about possible interventions based on biopsy grades (e.g., hospitalization, alteration of immunosuppression regimen)				
2. Identify or recognize signs and symptoms of graft rejection for				
a. kidney recipients				
1) fever, edema, or ascites				
2) gross hematuria, abdominal pain, or tenderness over graft site				
3) increased BUN and creatinine				
4) decreased urine output				
5) increased weight				
6) increased blood pressure				

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b. liver recipients				
1) increased liver enzymes, coagulation studies, and bilirubin				
2) change in T-tube bile drainage from golden brown to lighter color or presence of sludge				
3) increased abdominal girth/ascites				
4) light colored stools/dark colored urine				
5) jaundice				
6) fever				
7) right upper quadrant pain				
8) fatigue and malaise				
9) pruritis				
c. pancreas recipients				
1) glucose intolerance				
2) right upper quadrant pain				
3) increased serum amylase				
d. heart recipients				
1) dyspnea, orthopnea, and rales				
2) irregular, diminished or absent pulse, hypotension				
3) atrial- or brady-dysrhythmias				
4) S3, S4 auscultated heart sounds				
5) fatigue, restlessness, confusion				
6) cool, pale, or mottled skin				
7) oliguria, peripheral edema, weight gain				
8) fever				
9) distended neck veins				
e. lung recipients				
1) shortness of breath				
2) fatigue				
3) cough				
4) fever				
5) hypoxemia				
6) decreased exercise tolerance (e.g., 6-minute walk)				
7) decreased incentive spirometry volumes				
8) 20% decreased pulmonary function tests (e.g., FEV1)				
F. Recognize Signs and Symptoms of Infections	1	2	4	7
1. Ears-nose-throat (e.g., sinus drainage, rhinitis, cough, sneeze, ear ache, pruritis, fever, thrush, mouth sores, lesions, dental caries, erythema, swollen lymph glands)				
2. Pulmonary (e.g., cough, wheezing, change in color and quantity of sputum, shortness of breath)				
3. GI (e.g., diarrhea, nausea, vomiting, abdominal pain, bleeding, appetite loss)				
4. Urinary (e.g., frequency, burning, urgency, cloudy, foul odor, dysuria, flank pain)				
5. Integumentary (e.g., lesions, rash, pruritis, wound drainage, foot ulcers)				
6. Neurological (e.g., mental status changes, neck pain, headache)				
7. Musculoskeletal (e.g., joint pain, muscle aches, fever)				
G. Maintain Patient Safety and Prevent Infections	4	3	1	8
1. Implement				
a. neutropenic protocol per a physician's order				
b. thrombocytopenic protocol per a physician's order				
2. Limit room traffic and place a visitor restriction sign on the door for a neutropenic patient				
3. Maintain protective isolation status for an immunosuppressed patient per center policy				
4. Anticipate a physician's order for cultures (e.g., blood, urine, stool, sputum) for evidence of infection in response to fever				

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5. Administer appropriate blood products based on CMV status as ordered by physician				
6. Implement effective hand washing				
7. Prevent central line catheter/peripheral intravenous line infections by site care and changes according to hospital protocol				
8. Administer antimicrobials as ordered				
9. Obtain ordered samples for culture (e.g., blood, urine, stool, sputum)				
H. Evaluate psycho-social response	0	1	1	2
1. Allow patient to ventilate feelings regarding transplant/donor				
2. Monitor for mood changes				
3. Monitor support systems				
III. PHARMACOLOGICAL THERAPEUTICS	6	8	15	29
A. Administer immunosuppressive drugs, anticipate side effects and drug interactions, and monitor therapeutic levels and other lab values	3	4	7	14
1. Corticosteroids (e.g., Prednisone, Methylprednisolone)				
2. Calcineurin inhibitors (e.g., Tacrolimus, Cyclosporine)				
3. Antimetabolites (e.g., Mycophenolate mofetil, Azathioprine, Cyclophosphamide)				
4. Mono- and polyclonal antibody products (e.g., Muromonab CD3, Antithymocyte globulin, Daclizumab, Basiliximab)				
5. Others (e.g., Sirolimus)				
B. Administer non-immunosuppressive drugs, anticipate side effects and drug interactions, and monitor therapeutic levels and other lab values	3	4	8	15
1. Antimicrobials (e.g., antibiotics, antifungals, antivirals, antiprotozoals)				
2. Analgesics (e.g., Narcotics, Non-narcotics, muscle relaxants)				
3. Cardiovascular (e.g., beta blockers, ACE inhibitors, calcium channel blockers, cholesterol lowering agents, diuretics, inotropes)				
4. Anti-ulcers (e.g., H2 blockers, PPI, antacids)				
5. Prostaglandins (e.g., Alprostadil/PGE1)				
6. Insulin and Anti-hyperglycemics				
IV. EDUCATION AND DISCHARGE	4	5	3	12
A. Educate Transplant Recipient/Family	3	3	1	7
1. Prepare for possible dialysis				
2. Instruct regarding infection control measures (e.g., hand washing, incision site care, avoid touching tubes and drains, dietary restrictions, visitor and pet restrictions, vaccines, dental procedure precautions)				
3. Reinforce medication regimen (e.g., drug name, dose, administration schedule, purpose, side-effects, food/drug/herb interactions, therapeutic drug levels)				
4. Reinforce discharge instructions including				
a. signs and symptoms of graft rejection				
b. follow-up care				
c. need for biopsy				
d. compliance to care				
e. diet and fluid intake or restrictions				
f. wound care				
g. activity limitations				
h. pregnancy and birth control				
i. travel preparation / precautions and emergency resources				
j. patient transplant log (e.g., vital signs, weight, medications, capillary blood glucose)				
B. Initiate Patient Self-Care Teaching	1	2	2	5
1. Validate return-demonstration and recording of				
a. vital signs				
b. intake/output, weight, capillary blood glucose,				

Detailed Content Outline for the Clinical Transplant Nurse Certification Examination

Open cells show an examination could include items from indicated cognitive levels.
Shaded cells prevent appearance of items on examinations.

	Items			
	Recall	Application	Analysis	Total
c. self-administration of medications at the scheduled time				
d. catheter and drain care				
e. ostomy care				
f. incision care				
2. Identify potential barriers to postoperative follow up				
3. Collaborate with the transplant team regarding psychosocial support (e.g., family and community support, support groups, financial concerns)				
V. PROFESSIONAL RESPONSIBILITIES	2	2	1	5
A. Support Transplantation Research and Education	2	1	0	3
1. Verify consent was obtained before initiating a protocol				
2. Obtain research data per protocol (e.g., draw laboratory samples, document vital signs, administer medications)				
3. Educate new staff and nursing students regarding transplantation and organ donation				
B. Follow Ethical/Legal Guidelines	0	1	1	2
1. Maintain confidentiality of donor and recipient identities				
2. Transcend own values and emotional response regarding ethical conflicts (e.g., HIV+, substance abuse, pregnancy, non-compliance)				
Totals	35	61	54	150

Sample Questions

Three sample questions follow to provide you a sample of each of the different types of questions that are presented. These sample questions include one example of each item format described, one example of each of the three performance levels (recall, application, and analysis) and one example of an item from each of the three major performance areas on the examination. These sample questions are not intended to be difficult or necessarily reflect the difficulty of the examination. The correct answer is noted by an asterisk.

Sample 1: One best response item format

Content Outline Code: I.A.7

Performance Level: Recall

The primary purpose of immunosuppressive therapy is to

- A. prevent postoperative complications.
- *B. prevent graft rejection.
- C. increase the circulating white blood cells.
- D. enhance the function of the patient's native kidneys.

Sample 2: One best response item format

Content Outline Code: III.B.1c

Performance Level: Application

Four weeks following heart transplant, a recipient undergoes an endomyocardial biopsy that shows endothelial thickening, interstitial inflammation, and intravascular coagulation. This biopsy result indicates

- A. acute cellular rejection.
- *B. humoral rejection.
- C. normal postoperative changes.
- D. cytomegalovirus infection.

Sample 3: Complex Multiple-Choice – Element/phrase combination item format

Content Outline Code: II.A.1b

Performance Level: Analysis

A kidney transplant candidate has congenital uropathy with an ileal conduit. Which of the following would be required pre-transplantation to determine the ureteral implantation site?

- IVP
- Loopogram
- KUB
- Cytometrics

- A. I and III only
- B. I and II only
- *C. II and IV only
- D. III and IV only