

## APPENDECTOMY

An inflamed appendix may be removed using a laparoscopic approach with laser. However, the presence of multiple adhesions, retroperitoneal positioning of the appendix, or the likelihood of rupture necessitates an open (traditional) procedure.

Studies indicate that laparoscopic appendectomy results in significantly less postoperative pain, earlier resumption of solid foods, a shorter hospital stay, lower wound infection rate, and a faster return to normal activities than open appendectomy.

### CARE SETTING

Although many of the interventions included here are appropriate for the short-stay patient, this plan of care addresses the traditional appendectomy care provided on a surgical unit.

### RELATED CONCERNS

Peritonitis  
Psychosocial aspects of care  
Surgical intervention

## Patient Assessment Database (Preoperative)

### ACTIVITY/REST

**May report:** Malaise

### CIRCULATION

**May exhibit:** Tachycardia

### ELIMINATION

**May report:** Constipation of recent onset  
Diarrhea (occasional)

**May exhibit:** Abdominal distension, tenderness/rebound tenderness, rigidity  
Decreased or absent bowel sounds

### FOOD/FLUID

**May report:** Anorexia  
Nausea/vomiting

### PAIN/DISCOMFORT

**May report:** Abdominal pain around the epigastrium and umbilicus, which may have an insidious onset and become increasingly severe; pain may localize at McBurney's point (halfway between umbilicus and crest of right ileum) and be aggravated by walking, sneezing, coughing, or deep respiration.  
Increasingly severe, generalized pain or the sudden cessation of severe pain (suggests perforation or infarction of the appendix).  
Varied reports of pain/vague symptoms (due to location of appendix [e.g., retroceally or next to ureter] or due to onset of peritonitis)

**May exhibit:** Guarding behavior; lying on side or back with knees flexed; increased right lower quadrant (RLQ) pain with extension of right leg/upright position  
Rebound tenderness on left side (suggests peritoneal inflammation)

### RESPIRATION

**May exhibit:** Tachypnea; shallow respirations

### SAFETY

**May exhibit:** Fever (usually low-grade)

## TEACHING/LEARNING

- May report:** History of other conditions associated with abdominal pain, e.g., acute pyelitis, ureteral stone, acute salpingitis, regional ileitis  
May occur at any age
- Discharge plan considerations:** **DRG projected mean length of inpatient stay: 4.2 days/short stay: 24 hours**  
May need brief assistance with transportation, homemaker tasks  
Refer to section at end of plan for postdischarge considerations.

## DIAGNOSTIC STUDIES

**WBC:** Leukocytosis above 12,000/mm<sup>3</sup>, neutrophil count often elevated to greater than 75%.

**Abdominal x-rays:** May reveal hardened bit of fecal material in appendix (fecalith), localized ileus.

**Ultrasound or CT scan:** May be done for differentiation of appendicitis from other causes of abdominal pain (e.g., perforating ulcer, cholecystitis, reproductive organ infections) or to localize drainable abscesses.

## NURSING PRIORITIES

1. Prevent complications.
2. Promote comfort.
3. Provide information about surgical procedure/prognosis, treatment needs, and potential complications.

## DISCHARGE GOALS

1. Complications prevented/minimized.
2. Pain alleviated/controlled.
3. Surgical procedure/prognosis, therapeutic regimen, and possible complications understood.
4. Plan in place to meet needs after discharge.

### **NURSING DIAGNOSIS: Infection, risk for**

#### **Risk factors may include**

Inadequate primary defenses; perforation/rupture of the appendix; peritonitis; abscess formation

Invasive procedures, surgical incision

#### **Possibly evidenced by**

[Not applicable; presence of signs and symptoms establishes an *actual* diagnosis.]

#### **DESIRED OUTCOMES/EVALUATION CRITERIA—PATIENT WILL:**

##### **Wound Healing: Primary Intention (NOC)**

Achieve timely wound healing; free of signs of infection/inflammation, purulent drainage, erythema, and fever.

ACTIONS/INTERVENTIONS	RATIONALE
<b>Infection Control (NIC)</b> <b>Independent</b> Practice/instruct in good handwashing and aseptic wound care. Encourage/provide perineal care.  Inspect incision and dressings. Note characteristics of drainage from wound/drains (if inserted), presence of erythema.	Reduces risk of spread of bacteria.  Provides for early detection of developing infectious process, and/or monitors resolution of preexisting peritonitis.

ACTIONS/INTERVENTIONS	RATIONALE
<p><b>Infection Control (NIC)</b></p> <p><b>Independent</b></p> <p>Monitor vital signs. Note onset of fever, chills, diaphoresis, changes in mentation, reports of increasing abdominal pain.</p> <p>Obtain drainage specimens if indicated.</p> <p><b>Collaborative</b></p> <p>Administer antibiotics as appropriate.</p> <p>Prepare for/assist with incision and drainage (I&amp;D) if indicated.</p>	<p>Suggestive of presence of infection/developing sepsis, abscess, peritonitis.</p> <p>Gram's stain, culture, and sensitivity testing is useful in identifying causative organism and choice of therapy.</p> <p>Antibiotics given before appendectomy are primarily for prophylaxis of wound infection and are not continued postoperatively. Therapeutic antibiotics are administered if the appendix is ruptured/abscessed or peritonitis has developed.</p> <p>May be necessary to drain contents of localized abscess.</p>

<p><b>NURSING DIAGNOSIS: Fluid Volume, risk for deficient</b></p> <p><b>Risk factors may include</b></p> <p>Preoperative vomiting, postoperative restrictions (e.g., NPO)</p> <p>Hypermetabolic state (e.g., fever, healing process)</p> <p>Inflammation of peritoneum with sequestration of fluid</p> <p><b>Possibly evidenced by</b></p> <p>[Not applicable; presence of signs and symptoms establishes an <i>actual</i> diagnosis.]</p> <p><b>DESIRED OUTCOMES/EVALUATION CRITERIA—PATIENT WILL:</b></p> <p><b>Hydration (NOC)</b></p> <p>Maintain adequate fluid balance as evidenced by moist mucous membranes, good skin turgor, stable vital signs, and individually adequate urinary output.</p>
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ACTIONS/INTERVENTIONS	RATIONALE
<p><b>Fluid Monitoring (NIC)</b></p> <p><b>Independent</b></p> <p>Monitor BP and pulse.</p> <p>Inspect mucous membranes; assess skin turgor and capillary refill.</p> <p>Monitor I&amp;O; note urine color/concentration, specific gravity.</p>	<p>Variations help identify fluctuating intravascular volumes.</p> <p>Indicators of adequacy of peripheral circulation and cellular hydration.</p> <p>Decreasing output of concentrated urine with increasing specific gravity suggests dehydration/need for increased fluids.</p>

ACTIONS/INTERVENTIONS	RATIONALE
<p><b>Fluid Monitoring (NIC)</b></p> <p><b>Independent</b></p> <p>Auscultate bowel sounds. Note passing of flatus, bowel movement.</p> <p>Provide clear liquids in small amounts when oral intake is resumed, and progress diet as tolerated.</p> <p>Give frequent mouth care with special attention to protection of the lips.</p> <p><b>Collaborative</b></p> <p>Maintain gastric/intestinal suction, as indicated.</p> <p>Administer IV fluids and electrolytes.</p>	<p>Indicators of return of peristalsis, readiness to begin oral intake. Note: This may not occur in the hospital if patient has had a laparoscopic procedure and been discharged in less than 24 hr.</p> <p>Reduces risk of gastric irritation/vomiting to minimize fluid loss.</p> <p>Dehydration results in drying and painful cracking of the lips and mouth.</p> <p>An NG tube may be inserted preoperatively and maintained in immediate postoperative phase to decompress the bowel, promote intestinal rest, prevent vomiting.</p> <p>The peritoneum reacts to irritation/infection by producing large amounts of intestinal fluid, possibly reducing the circulating blood volume, resulting in dehydration and relative electrolyte imbalances.</p>

<p><b>NURSING DIAGNOSIS: Pain, acute</b></p> <p><b>May be related to</b></p> <p>Distension of intestinal tissues by inflammation</p> <p>Presence of surgical incision</p> <p><b>Possibly evidenced by</b></p> <p>Reports of pain</p> <p>Facial grimacing, muscle guarding; distraction behaviors</p> <p>Autonomic responses</p> <p><b>DESIRED OUTCOMES/EVALUATION CRITERIA—PATIENT WILL:</b></p> <p><b>Pain Level (NOC)</b></p> <p>Report pain is relieved/controlled.</p> <p>Appear relaxed, able to sleep/rest appropriately.</p>
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ACTIONS/INTERVENTIONS	RATIONALE
<p><b>Pain Management (NIC)</b></p> <p><b>Independent</b></p> <p>Assess pain, noting location, characteristics, severity (0–10 scale). Investigate and report changes in pain as appropriate.</p>	<p>Useful in monitoring effectiveness of medication, progression of healing. Changes in characteristics of pain may indicate developing abscess/peritonitis, requiring prompt medical evaluation and intervention.</p>

ACTIONS/INTERVENTIONS	RATIONALE
<p><b>Pain Management (NIC)</b></p> <p><b>Independent</b></p> <p>Provide accurate, honest information to patient/SO.</p> <p>Keep at rest in semi-Fowler's position.</p> <p>Encourage early ambulation.</p> <p>Provide diversional activities.</p> <p><b>Collaborative</b></p> <p>Keep NPO/maintain NG suction initially.</p> <p>Administer analgesics as indicated.</p> <p>Place ice bag on abdomen periodically during initial 24–48 hr, as appropriate.</p>	<p>Being informed about progress of situation provides emotional support, helping to decrease anxiety</p> <p>Gravity localizes inflammatory exudate into lower abdomen or pelvis, relieving abdominal tension, which is accentuated by supine position.</p> <p>Promotes normalization of organ function, e.g., stimulates peristalsis and passing of flatus, reducing abdominal discomfort.</p> <p>Refocuses attention, promotes relaxation, and may enhance coping abilities.</p> <p>Decreases discomfort of early intestinal peristalsis and gastric irritation/vomiting.</p> <p>Relief of pain facilitates cooperation with other therapeutic interventions, e.g., ambulation, pulmonary toilet.</p> <p>Soothes and relieves pain through desensitization of nerve endings. Note: Do not use heat, because it may cause tissue congestion.</p>

<p><b>NURSING DIAGNOSIS: Knowledge, deficient [Learning Need] regarding condition, prognosis, treatment, self-care, and discharge needs</b></p> <p><b>May be related to</b></p> <p>Lack of exposure/recall; information misinterpretation</p> <p>Unfamiliarity with information resources</p> <p><b>Possibly evidenced by</b></p> <p>Questions; request for information; verbalization of problem/concerns</p> <p>Statement of misconception</p> <p>Inaccurate follow-through of instruction</p> <p>Development of preventable complications</p> <p><b>DESIRED OUTCOMES/EVALUATION CRITERIA—PATIENT WILL:</b></p> <p><b>Knowledge: Illness Care (NOC)</b></p> <p>Verbalize understanding of disease process and potential complications.</p> <p>Verbalize understanding of therapeutic needs.</p> <p>Participate in treatment regimen.</p>
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ACTIONS/INTERVENTIONS	RATIONALE
<p><b>Teaching: Disease Process (NIC)</b></p> <p><b>Independent</b></p> <p>Identify symptoms requiring medical evaluation, e.g., increasing pain; edema/erythema of wound; presence of drainage, fever.</p> <p>Review postoperative activity restrictions, e.g., heavy lifting, exercise, sex, sports, driving.</p> <p>Encourage progressive activities as tolerated with periodic rest periods.</p> <p>Recommend use of mild laxative/stool softeners as necessary and avoidance of enemas.</p> <p>Discuss care of incision, including dressing changes, bathing restrictions, and return to physician for suture/staple removal.</p>	<p>Prompt intervention reduces risk of serious complications, e.g., delayed wound healing, peritonitis.</p> <p>Provides information for patient to plan for return to usual routines without untoward incidents.</p> <p>Prevents fatigue, promotes healing and feeling of well-being, and facilitates resumption of normal activities.</p> <p>Assists with return to usual bowel function; prevents undue straining for defecation.</p> <p>Understanding promotes cooperation with therapeutic regimen, enhancing healing and recovery process.</p>

**POTENTIAL CONSIDERATIONS following acute hospitalization (dependent on patient's age, physical condition/presence of complications, personal resources, and life responsibilities)**

Therapeutic Regimen: ineffective management—perceived seriousness/susceptibility, perceived benefit, demands made on individual (family, work).