Wound Care Home Skills Program
A Multi-Association Collaborative

American College of Surgeons
Surgical Patient Education Program
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No Disclosures
Objectives

- Understand the gaps that exist in wound care patient education and consider how to fill them.
- Understand the value of a skills based patient and caretaker education training model used in the hospital and the community—to strengthen readmission reduction efforts.
- Recommend a standardized wound care curriculum, training guide and skills program to teach and validate professionals in skills centers to increase patient safety and achieve readmission reduction goals.
# The Healthcare Quality Equation

**Variables (Can Change)**
- Nutrition
- Smoking
- Coagulation
- Education and Prep
- Patient Engagement
- Skills training

**Patient**

**Intervention**
- Prevention
- Surgical approach
- Wound Experts
- Medications
- Dressings
- Discharge Care

**Outcome**
- Adjusted for patient and intervention factors
- Satisfaction
- Readmission

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**The Healthcare Quality Equation**

**Surgical Patient Education Program**

Prepare for the Best Recovery

**American College of Surgeons**

Inspiring Quality: Highest Standards, Better Outcomes

**American College of Surgeons | Division of Education**

Blended Surgical Education and Training for Life®
Who Are We Treating in The Home and at What Cost?

The Surgical Wound

- 60% of wounds managed in the home are surgical
- Surgical site infections (SSIs) cause significant morbidity and mortality
- Account for over $3 billion in annual costs in the United States

1
The Chronic Wound population

- 50% of cases involve complex wound management
- Non-healing wounds result in 5 to 7 million health care visits per year, costing an estimated $20 billion annually
Pressure ulcers

- 2.5 million patients per year.
- 1993 to 2003, a 63 percent increase in pressure ulcers.
- Cost of individual patient care ranges from $20,900 to 151,700 per pressure ulcer.
- Each pressure ulcer may add > $37,800 in costs to a hospital stay.
Lack of Wound Care Instruction - a Cause for Readmission

- 63% of patients who did not receive wound care information re-entered their health care facilities after discharge due to wound issues. 5, 6

- Wound infection and deterioration account for the highest reason for admission from a nursing home facility – equal to respiratory and cardiovascular related issues.
The High Risk Population

• High mortality rate among Diabetics with non-healing wounds with amputations in five years.
• ACS NSQIP data recommends assessing both inpatient and outpatient surgical quality with
• Outpatient assessment likely to be an important component of ongoing quality improvement efforts. 7
Families are the major providers of long term care, but no standardized skill-based patient education program for wound care exists.

Structured pre-operative education results in significantly higher performance and more frequent implementation of self-care skills both in-hospital and post-discharge than in uninstructed patients. 8, 9
## 2014 ACS Member Survey Total*

<table>
<thead>
<tr>
<th>ACS Advisory Council Wound practice assessment</th>
<th>Percentage of members</th>
</tr>
</thead>
<tbody>
<tr>
<td>Identified the need for a wound care education program</td>
<td>90% (202)</td>
</tr>
<tr>
<td>Using verbal instruction with hand drawings</td>
<td>75% (169)</td>
</tr>
<tr>
<td>Using print instruction with images</td>
<td>10.7% (25)</td>
</tr>
<tr>
<td>Identified it would be valuable for them to have skills training for management of common post-operative home needs, such as drain and wound care.</td>
<td>91.6% (206)</td>
</tr>
</tbody>
</table>

* n=224 representing all surgical specialties
Peers agree...

- There is inadequate physician training about post-op/discharge instructions for wound care.
- Commercial materials and websites exist but the delivery mode does not support evaluation, access from professional, hospital or government health-related sites.
- Limited use by medical professionals due to increasing restrictions on distributing commercial materials.
Where is the data?

- Medicare and Medicaid Services (CMS) discharge requirements include educating patients and their families about post-facility discharge.
- No outcome database to determine the effectiveness of wound care discharge plans, or the efficiency of wound healing practices.
- No measure of the reduction in use of additional services, or other endpoints including health-related quality of life, functional status and satisfaction.
ACS has experience in building Surgical Patient Education Skills Training programs

- **2010**: ACS Patient Education Program launched The Ostomy Home Skills program
- Professional guidelines, a skill based training kit with practice equipment and demonstration via DVD and an instruction booklet
- 15,000 kits were distributed in the 1st year
- 130,000 views of the materials on the ACS website and YouTube.
Patients who did not use the kit were more than twice as likely to visit the ER at least once in the two weeks after surgery than those who did use the kit (p=0.051).
Before Your Operation
How Well Were You Prepared on What to Expect By:

<table>
<thead>
<tr>
<th>Resource</th>
<th>Surgeon</th>
<th>Ostomy Nurse</th>
<th>Hospital Brochure</th>
<th>Support Group Member</th>
<th>Ostomy Home Skills Kit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Score</td>
<td>4.34</td>
<td>4.39</td>
<td>3.8</td>
<td>4.3</td>
<td>4.48</td>
</tr>
</tbody>
</table>

In the Hospital How Well Were Your Prepared For Home Care By:

<table>
<thead>
<tr>
<th>Resource</th>
<th>Surgeon</th>
<th>Ostomy RN</th>
<th>Floor RN</th>
<th>Hospital Brochure</th>
<th>Commercial Handout</th>
<th>Ostomy Home Skills Kit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Score</td>
<td>3.9</td>
<td>4.3</td>
<td>3.8</td>
<td>3.7</td>
<td>3.8</td>
<td>4.5</td>
</tr>
</tbody>
</table>

Patients rated the kit higher (3.6/4.0) than any other resource in preparing them for their self-care at home.
Professional evaluation

• Professionals rated the kit (4.7/5)

• Identified the kit increased satisfaction and confidence in care

• Decreased teaching time, unplanned visits and complication rates (i.e., skin excoriation)
Home Skills Training Programs

Step by step instructions
Visual Demonstration
Repetitive practice
Practice supplies and simulator
Specific aims

• To create and test evidence-based wound care discharge training programs.

• Support implementation across surgical, primary care and long term care practices with particular emphasis on rural, underserved areas and high risk populations.

• Deliver wound care management education that utilizes multiple health care professionals, leverages health IT, prevents adverse events and improves the transition between care facilities.

• Training within the Accredited Education Institutes/AEI.

https://www.facs.org/education/accreditation/aei/consortium
COLLABORATIVE ORGANIZATIONS

American Burn Association
American College of Wound Healing & Tissue Repair
Association of periOperative Registered Nurses (AORN)
Advisory Council for Plastic Surgeons
Advisory Council for General Surgery
American Association for the Surgery of Trauma
Advisory Council for Pediatric Surgery
Wound Ostomy and Continence Nurses Society (WOCN®)
Wound Healing Society
2016: development of Phase 1:

- Collaboration and consensus among 12 associations plus patients
- Two skill instruction booklets with images to guide each step of skill acquisition
- E-learning/video resources demonstrating wound care management
- Step by Step training checklist
- Patient Evaluation
Caring for Abrasions and Lacerations

**Lacerations**

A laceration is a cut that goes all the way through the skin. The cut may be small and cared for at home. Deep lacerations go beneath the skin through the fat layer or to the muscle layer and may need medical attention right away.

Lacerations on fingers, toes, or hands are common and many will heal on their own. Lacerations with fractures should be covered by an antibiotic ointment.

If you have a partial amputation or crush injury, a nurse or doctor should check the nail bed for a fracture (break). Lacerations on your hands or feet may involve deeper structures under the skin, like tendons and nerves, and should be treated, especially if you have any loss of sensation.

**Puncture/Stub Wounds**

Puncture wounds, such as a wound from stepping on a nail, are not usually stitched (sewn) closed with sutures. Be aware that they may bleed for the first 24 hours. The wound is left open in case of infection. Antibiotics may be given if the wound is deep or there was dirt or debris in the wound.

A stab wound from a sharp object usually causes a small opening at the skin but may also go very deep. Nerves, tendons, and organs can be injured. If you have a tongue or palate laceration, your doctor will need to inspect your throat for any injury. These lacerations rarely require sutures unless they are large with continued bleeding.

**Scalp Wounds**

Wounds to the scalp or face may also involve fractures to the skull bones or facial bone. It is important to know the signs of a serious head injury and when to call 911—it can save someone’s life.

- **Call 911 and get medical help right away if the injured person:**
  - Becomes very sleepy
  - Behaves abnormally
  - Develops a severe headache or stiff neck
  - Has unequal pupil sizes (the dark central part of the eye)
  - Cannot move an arm or leg
  - Loses consciousness, even briefly
  - Vomits more than once
**Sutures (Stitches)**

Sutures (stitches) may be needed if the wound is too large to close and also to stop the bleeding. Sutures are special threads that are sewn through the skin at an injury site to bring a wound together. Absorbable sutures, which do not require removal, may be used on lacerations of the mouth, tongue, genitals, and deep, multilayer lacerations. They are usually absorbed by the body within 4 to 8 weeks. Nylon and other nonabsorbable sutures must eventually be removed by the health care provider.⁶

**Staples**

Staples are used to close surgical incisions or wounds that have fairly straight edges. Medical staples are made of special metal and are not the same as office staples. The amount of time staples are kept in the wound varies with the wound and healing rate of the patient. Staples are usually removed at a doctor’s office or hospital. There may be some localized redness around the staples for the first few days. If the redness increases, this may be a sign of infection.

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**Section 2: Wound Care**

**Wound Care Skills**

**Clean Your Wound**
- Many wounds will heal on their own (primary healing) or with basic first aid care at home.
- Most skin wounds should heal within 10 days.
- Watch the DVD and then follow each of the steps.

**Skill: Clean Wounds Closed with Sutures (Stitches) or Staples**

- If your hands are visibly dirty, wash your hands with soap and water for 15 to 30 seconds; if your hands are not visibly dirty, use a 60% alcohol-based hand gel.
- Soak clean gauze or a cloth with soap and water and dab around the staple or suture line to remove dried blood or drainage.
- Start at the incision line, which is where your wound is the least contaminated, and clean outward away from the wound.
- Dry the area completely, dabbing around the sutures or staples.
- You may keep the area open to air (uncovered by a bandage or gauze) if the staple or suture line is not draining.
- Repeat cleaning around the site daily.

Your doctor should advise you when to come back to get the sutures or staples removed. Let your health care provider know if there is any drainage or signs of infection from the wound. Be sure to return to your doctor when it is time for your sutures or staples to be removed. Steri-Strips should be kept dry for the first 24 hours but ask your doctor if you can shower after 24 hours. Steri-Strips will usually fall off by themselves after 7 to 10 days.
Wound care instruction

Timing of Suture or Staple Removal

<table>
<thead>
<tr>
<th>Wound Location</th>
<th>Time until Removal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Face</td>
<td>3 to 5 days</td>
</tr>
<tr>
<td>Scalp</td>
<td>7 to 10 days</td>
</tr>
<tr>
<td>Arms</td>
<td>7 to 10 days</td>
</tr>
<tr>
<td>Trunk/Torso</td>
<td>10 to 14 days</td>
</tr>
<tr>
<td>Legs</td>
<td>10 to 14 days</td>
</tr>
<tr>
<td>Hands or feet</td>
<td>10 to 14 days</td>
</tr>
<tr>
<td>Palms or soles</td>
<td>14 to 21 days</td>
</tr>
</tbody>
</table>

It is important to NOT put additional stress or strain on a wound closure. If you have an abdominal incision, try not to strain when using the toilet, bending, or lifting. Do not lift objects over 10 pounds; a gallon of milk is about 10 pounds.

Absorbent Dressings
Absorbent dressings help to collect moderate to heavy drainage from the wound and provide coverage and protection.

<table>
<thead>
<tr>
<th>Dressing Type</th>
<th>Wound Type</th>
<th>Description</th>
<th>Indication</th>
</tr>
</thead>
<tbody>
<tr>
<td>Foam</td>
<td>Moderate or heavily draining wounds</td>
<td>Polyurethane pads, sheets or cavity packing that may have air and water tight backing</td>
<td>Maintains wound moisture, protects the wound; used for moderate to heavy drainage</td>
</tr>
<tr>
<td>Collagen</td>
<td>Minimal to heavily draining wounds; skin grafts or donor sites</td>
<td>Absorbs wound drainage to form a gel over the wound surface</td>
<td>Maintains wound moisture and enables healing at a rapid rate</td>
</tr>
<tr>
<td>Alginates</td>
<td>Full and partial thickness wounds; tunneled wounds that require packing</td>
<td>Produces a gel that absorbs fluid across the entire wound surface</td>
<td>Maintains wound moisture, promoting healing and protecting new tissue; helps remove dead tissue</td>
</tr>
<tr>
<td>Hypertonic</td>
<td>Full or partial thickness wounds</td>
<td>Sheet, ribbon or gel for full and partial thickness wounds</td>
<td>Collects wound drainage</td>
</tr>
<tr>
<td>Hydrofibers</td>
<td>For moderate drainage; pressure ulcers and surgical wounds</td>
<td>Sterile fibrous sheets convert to a solid gel and conforms to the wound when moistened</td>
<td>Highly absorbent and allows debridement; collects wound drainage</td>
</tr>
</tbody>
</table>

Alginates absorbent dressing
When to Call Your Doctor

What to Watch Out For

- Call your doctor if you experience any of these signs:
  - Increased drainage or bleeding that won’t stop with direct pressure
  - Redness in or around the wound
  - Wound tissue that changes from pink, to white, yellow, or black in color
  - Foul odor or pus coming from the wound
  - Increased size or depth of the wound
  - Increased swelling around the wound
  - Fever about 101°F (38.3°C) or shaking/chills
  - Pain at the wound site that does not go away, even after taking pain medicine
  - If the wound has split open
  - If your stitches or staples have come out too soon (see chart on pg. 14)

You may take pain medications, such as ibuprofen, as directed by your doctor for pain at the wound site.

Follow up with your doctor to make sure the wound is healing properly.

Discharge Plan

Medical Professionals’ Contact Information:

- My surgeon’s name and number: ________________________________
- My Home Health Nurse’s name and number: ______________________
- Other contacts:

Your Wound Care:

- I need to clean my wound and change my dressing _______ x/day
- Wound and dressing changes at ________________________________
- My pain medication is: ________________________________

- I need to take my pain medication _____/_____ hours before cleaning my wound or changing the dressing.
- My wound care supplies are ________________________________

Instructions for cleaning my wound:

__________________________________________________________

__________________________________________________________

__________________________________________________________

__________________________________________________________

Have your supplies ordered before you leave the hospital. It may take 1 to 2 days for them to arrive. Leave the hospital with several days of supplies in case there is a delay.

Supplies may be ordered through a local medical equipment store or pharmacy or a national Internet order company. Check with your insurance company to see if they have preferred providers. You may need a prescription for your wound care supplies and pain medication. If you have home health, they may be assigned to order your supplies. Check with your hospital discharge planner for your specific details for the coverage of the supplies you need.

Notes:

__________________________________________________________

__________________________________________________________
Homecare for Surgical Wounds

Section 1: Your Wound

Your Wound after Surgery

There are 2 types of surgical wounds following surgery:

1. Incisional wounds are made by cutting through skin, muscle, and fat so that a body part can be repaired or removed. Small incisions are also created during laparoscopic and robotic surgery.

2. Excisional wounds are made for the removal of a cyst or other type of tissue.

The goals of wound care after surgery are:

- Let the wound heal rapidly without infection or complication
- Let the affected area return to the best level of function and appearance

Surgical incision
Dressing and drain skills

Section 3: Surgical Dressings & Bandages

Dressing and Bandage Skills

**Watch and Review**

- Put on and Remove a Dressing
  - Your doctor may prescribe an antibiotic ointment to help prevent infection and reduce the size of the scar.
  - You may have been told to use a special dressing for your wound and should be shown how to apply it. Apply it exactly as instructed.
  - Watch the video, and then follow each of the steps.

**Skill: Remove the Postoperative Dressing**

Follow your surgeon’s instructions for removing the dressing and cleaning and caring for the wound.

Remove the postoperative dressing if:

- There are signs of excessive inflammation and drainage
- Wound pain or pressure cannot be controlled by medication
- You suspect there is wound separation

**Skill: Put on a New Dressing**

1. After cleaning the wound, place a new primary dressing or clean gauze on the wound.
2. Secure the dressing with tape or by wrapping a secondary bandage completely around the dressing. If you are wrapping a bandage, extend the bandage 1 inch past the primary dressing in all directions to make sure it is completely covered.
3. Tape the bandage ends to the bandage itself to secure.
4. Wash your hands again or reapply a 60% alcohol-based hand gel.

Call your doctor for instructions on how to care for your wound if it has any of the signs of inflammation or pain described above. Continue to use tap water for wound cleaning after 48 hours unless you are told to change to another solution.

Section 4: Surgical Drainage

Surgical Drain Skills

**Watch and Review**

- Taking Care of Your Drain at Home
  - Wound drainages may contain blood, and the tubing may get clots or clogs that may keep the fluid from draining. You may hear these terms and see different types of drainage from your wound:
    - Clear, watery plasma
    - Pale, watery drainage with some traces of blood
    - Fresh bleeding
    - Thick, yellow, green, or brown drainage
  - Before you empty and measure the fluid, you will need to clear the clots from the tubing each time. This is called stripping or milking the tubing. Watch the video, and then follow each of the steps.

**Skill: Clear the Tubing and Empty the Drain**

- If your hands are visibly dirty, wash your hands with soap and water for 15 to 30 seconds. If your hands are not visibly dirty, use a 60% alcohol-based hand gel.
- Using one hand, firmly hold the tubing near it where it comes out of the skin. This will prevent the drain from being pulled out while you are stripping it.
- Firmly pinch the tubing with your other hand, using your thumb and first (index) finger. Squeeze the tubing and slowly slide your fingers down the tubing toward the drain. You may use an alcohol pad or apply lotion on the tubing to make it easier to slide your fingers down the tubing. Squeeze the tubing firmly enough so it becomes flat.

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Blended Surgical Education and Training for Life®
Help Prevent Surgical Site Infections

Talk to Your Health Care Provider

Ask your doctor what you can do to reduce your risk for a surgical site infection. Here are some steps you can take:

- Stop smoking before or after surgery—tobacco smoking can decrease the amount of blood, oxygen, and nutrients that go to the surgical site. Smoking after your surgery will decrease your wound healing and increase your risks.
- Visit tacs.org/education/patient-education/patient-resources/preparing-to-surgery for the American College of Surgeons resources to quit smoking before surgery.
- Discuss your medical history with your surgical team, especially if you have diabetes or another chronic illness.
- Avoid shaving in the skin area that the surgeon is planning to operate through.
- Visitors should wash their hands or use a 60% alcohol-based hand gel before visiting. Friends and family should not touch your wound or surgical site unless they have been trained to do so.
- Carefully follow your doctor’s instructions about wound care after your surgery.

When to Call Your Doctor

Call your doctor if you experience any of these signs:

- Increased drainage or bleeding that won’t stop with direct pressure
- Redness in or around the wound
- Wound tissue that changes from pink to white, yellow, or black in color
- Foul odor or pus coming from the wound
- Increased size or depth of the wound
- Increased swelling around the wound
- Fever about 101°F (38.3°C) or shaking/chills
- Pain at the wound site that does not go away, even after taking pain medicine
- If the wound has split open
- If your stitches or staples have come out too soon (see chart on pg. 11)

You can take pain medications, such as ibuprofen, as directed by your doctor for pain at the wound site.

Follow up with your doctor to make sure the wound is healing properly.
• Caring for Abrasions & Lacerations
• Cleaning your wound
• Packing your wound
• Dressings and Bandaging
• Care of your surgical drain
Evidence based instruction

Wash hands for at least 30 seconds
Cleaning and care of open and closed wounds

SCALP WOUNDS

- If you have a scalp wound that has been closed with sutures or staples, you should be able to shampoo your hair gently and rinse.
Packing a wound
Dressing and bandaging
A checklist for patients and professionals to evaluate demonstration of skills learned

### YOUR STEP-BY-STEP SKILLS CHECKLIST

**Directions:** Please use this guide along with your skill kit supplies to practice. Then share this checklist with your nurse/surgeon. They will add in any comments or special instructions.

<table>
<thead>
<tr>
<th>Patient/Care Provider Evaluation</th>
<th>Professional Evaluation</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 I can do this on my own</td>
<td>1 Can do independently</td>
</tr>
<tr>
<td>2 I need a little help</td>
<td>2 Needs some help</td>
</tr>
<tr>
<td>3 I need much help</td>
<td>3 Needs much help and additional review</td>
</tr>
<tr>
<td>4 I had no chance to practice</td>
<td>4 No chance to review, home care to follow up</td>
</tr>
</tbody>
</table>

#### SKILL — REMOVING THE WOUND DRESSING

<table>
<thead>
<tr>
<th></th>
<th>Patient/Provider</th>
<th>Professional</th>
<th>Comments/Instructions</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Clean hands (wash or use 60% alcohol based hand gel).</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Use a gloved hand or a plastic bag to remove the dressing.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Inspect the dressing for drainage or any foul odor.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Coil the dressing inside the glove or bag and discard.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Use 60% alcohol based hand gel to disinfect hands.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### SKILL — CLEANING THE WOUND

<table>
<thead>
<tr>
<th></th>
<th>Patient/Provider</th>
<th>Professional</th>
<th>Comments/Instructions</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Clean and prepare an area and set out your supplies.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Clean hands (wash or use 60% alcohol based hand gel).</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Soak clean gauze or cloth in tap water or sterile cleaning solution.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Dab around the incision line cleaning away from the center of the wound.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Use a cotton swab to remove any blood or crust that has formed around it.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>Rinse well and carefully pat the wound dry with dry gauze or a clean towel.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Evaluation

• Validate the effectiveness of wound skills education program in comparison to traditional patient education methods

• Patient behavioral outcomes (patients’ ability to remove, change and manage the wound)

• Affective outcomes (confidence, satisfaction by patients)

• Clinical outcome data (accuracy of demonstration, complication rate, length of treatment, and frequency of use of additional services post-operatively)
Phase II coming in 2017

Chronic and non-healing wounds
New Patient/Family Surgical Skills Training Model
Thank you for your attention
Visit us at
www.surgicalpatienteducation.org
References:


References continued...


