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## Planning and integrating tablet computing in an accelerated nursing curriculum.

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# PLANNING AND INTEGRATING TABLET COMPUTING TECHNOLOGY IN AN ACCELERATED NURSING CURRICULUM

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**KATHRYN SHAFFER MSN RN**

**MARY HANSON-ZALOT MSN RN AOCN**

**BETH ANN SWAN PhD CRNP FAAN**





# Project Origin

- Educational Technologies Advisory Group
  - Includes one representative and one alternate from:
    - Library
    - Education Services
    - JeffIT
    - JCGS, JMC, JSHP, JSN, JSP, JSPH



# Project Origin

- Educational Technologies Advisory Group
  - Charged with reviewing, evaluating and recommending new instructional technologies
  - Was considering how tablet computing could enhance student learning, access to information, and potential for assessment



# Project Origin

- Educational Technologies Advisory Group
  - Went from everyone wanting to work with them...
  - Down to nursing alone once we asked for specifics on how it would be incorporated into the program



# JSN Background

- Since 1891, Jefferson has educated women and men as highly respected nurse clinicians, educators, and researchers.
- Jefferson School of Nursing offers a distinguished educational program that combines research and technology with compassionate care. We are one of six colleges and schools dedicated to health sciences education and research at Thomas Jefferson University.
- Jefferson's patient-centered model of healthcare education brings future nurses, pharmacists, physicians, therapists and technologists into the same classrooms and simulated clinical settings. Training together using the latest technologies in realistic environments gives students the knowledge, experience, and mindset to be successful members – and leaders – of the integrated healthcare team.



# Pilot Project: JSN FACT Cohort

- The Facilitated Academic Coursework Track (FACT) is for highly talented students who already hold a bachelor's degree in a field other than nursing. FACT students earn the BSN degree in 12 consecutive months of intensive full-time study.
- Students accepted into this program option are admitted to both the undergraduate and graduate programs. During the program's undergraduate phase, students earn 55-credits, and an additional 9 graduate credits at JSN. Students are scheduled for theory course content two days per week; and clinical practicum experience 24 hours per week. This schedule allows time to integrate theoretical concepts and constructs into clinical practice. Clinical hours may include evenings and weekends.
- At the end of the program, students take the state nursing licensing exam and if successful, select their specialty area in the MSN specialty they wish to pursue.



# JSN: FACT

- Jefferson School of Nursing has included using a personal digital device (qualified smart phone, pda or iPod Touch) in its curriculum for several years.
- These devices are used in the classroom, simulation laboratories and clinical setting.
- The content made available on these devices was from Unbound Medicine – Nursing Central. It included:





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**Diseases and  
Disorders**



**MEDLINE  
Journals, Selected**



**Taber's, 21st  
Edition**

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Nursing Central, available for iPhone®, BlackBerry®, Android™ and Windows Phone® is optimized for each platform and features superior navigation, so answers are easy to find at the bedside or anywhere they're needed.

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# Project Objectives

1. Evaluate the usability of the iPad as single tool for accessing instructional materials used in the nursing curriculum.
2. Measure student and faculty satisfaction with using the iPad.
3. Measure student satisfaction with wireless access in the lecture hall, simulation laboratories, library and clinical sites.
4. Evaluate use of the iPad as an audience response tool, compared to the use of the handheld "clickers" used the previous year.
5. Evaluate the use of the iPad as a clinical reference tool, compared to the use of the PDD used the previous year.
6. Evaluate the use of the iPad as an assessment tool for exams in Blackboard.
7. Evaluate the usability of the iPad as single tool for accessing instructional materials used in the nursing curriculum.



# Project Support

- Chief Information Officer provided funding to help offset the student cost of purchasing ipad2.
- School of Nursing Dean provided funding to purchase faculty devices.
- Education Services and University IT provided support services for faculty and student training and development.



# Campus Support Services

- Classroom and library support are provided by AISR (Academic & Instructional Support & Resources)
- JeffIT is our infrastructure group responsible for wireless network, desktop computers, enterprise systems, etc.
- Together this group tested the wireless availability in the classrooms and identified where increases in services would be needed (everywhere!)
- Additional access points were installed in the classrooms and a support team of personal from both groups would be available on the first and second days to help make sure students were able to get the iPads onto the network, sign into the email and Blackboard accounts, and provide help with any apps the students were having trouble with.

# Faculty Support

- Timing – iPad2 just released
- User Manual
- Setup (campus wifi network, e-mail, calendar, etc) and ongoing support/troubleshooting
- Meaningful Use – everybody hopes for it
  - Instant access to text books
  - Include searching web in class activities
  - TurningPoint for interaction and
  - Drug dosing calculations
  - Heart sounds
  - Testing
  - Clinical companion resource



# Student Support

- iPad distribution with the bookstore
- Orientation workshop and User Manual
- Getting onto the wireless network
- Setting up email
- Configuring the TurningPoint and Nursing Central applications







# There's an app for that...

- Required
  - Nursing Central (purchased by students)
  - Kaplan (via Safari)
  - Elsevier's Vital Bookshelf (for ebooks, app is free)
  - TurningPoint ResponseWare (paid for by JSN)



# There's an app for that...

- Recommended by us
  - Find my iPhone/iPad (free)
  - DropBox (free)
  - NCLEX-RN Quiz Cards (\$2.99)
  - Blackboard Mobile Learn (free)
  - MedLab Tutor (free)
  - Mnemonics (\$1.99)
  - Pages (\$9.99)
  - Keynote (\$9.99)
  - iStethoscope Pro (\$.99) or iAuscultate (\$.99)
  - iAnnotate (\$9.99) or Noterize (free)






## Also Required/Recommended

- Passcode Lock (required)
- Wallpaper image with name and contact information (recommended)
- Erase Data on 10 failed passcode attempts (required)

# iPad Launch Site



# Student Organization


 **Jefferson.** [Home](#) [Help](#) [Logout](#)


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**Tools**  
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[JSN FACT 2011 \(JSN-FACT-2011\)](#) > ANNOUNCEMENTS

 **Announcements**







[VIEW TODAY](#) [VIEW LAST 7 DAYS](#) [VIEW LAST 30 DAYS](#) [VIEW ALL](#)

**February 10, 2012 - February 17, 2012**

 **Mon, May 16, 2011 -- Welcome to FACT Class of 2012!** Posted by: Karen Papastrat




# Video Demonstrations



 **Jefferson**     
Home Help Logout



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- Announcements
- Information
- Documents
- Required and Suggested Apps
- Other App Favorites
- Discussion Board
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- Video Demonstrations

## Tools

-  Communication
-  Organization Tools
-  Organization Map

-  Control Panel
-  Quick Unenroll

-  Refresh
-  Detail View

[JSN FACT 2011 \(JSN-FACT-2011\)](#) > VIDEO DEMONSTRATIONS



## Video Demonstrations



[Installing iTunes](#)



[Launching iTunes](#)



[Editing a photo for your lock screen wallpaper](#)



[Setup your lockscreen](#)




[How to setup Find my iPad](#)




[Registering your ResponseWare Device](#)  
[RegisteringTPResponseWare\\_demo.zip](#) (Package File)

# Discussion Groups: Support



## Discussion Board

 Forum

Display Order	Forum
1	<p><a href="#">iPad student-to-student support</a> <b>Welcome FACT Class of 2012,</b></p> <p><b>Post your questions here!</b></p> <p>Need an answer to your questions? Post questions here and read through the postings for more valuable information! This iPad student-to students support site offers you an opportunity to use the discussion board format to help you to become familiar with iPad technology, and get quick answers and information from your colleague related to the iPad, electronic information, e-books, app, resources and more for your iPad.</p> <p><b>How to post to the DISCUSSION BOARD:</b></p> <p>Select the highlighted word link "FORUM", which will launch you into the discussion board. To submit your answer, select "ADD A NEW THREAD" and then, type in your response and then, be sure to click on "SUBMIT". To view your fellow student responses click on the response and read. You may chose to reply to their response by selecting the "Reply" tab at the bottom of the screen and then "SUBMIT" to post it or cancel.</p> <p><b>How to send a group or individual EMAIL:</b></p> <p>Go the the "Communication Tab," left hand side, under tools. Select "send emial" to all users or to selected users.</p> <p><b>A special recognition and thank you to the FACT student "super-users" who volunteered to assist and help guide their fellow students!</b></p> <p>Rick McEwan Amber Tran Tony Pinto Chamaio Cheyenne-Rindge Eric Elcenko Christina Furia Tiffany Fearone</p> <p>Karen Papastrat, Asst. Dean Senior Level</p>



# Discussion Groups: Apps

The screenshot shows a web interface for a discussion group. At the top, there is a title bar with a folder icon and the text "Organization Discussions: Share new apps". To the right of the title bar are two buttons: "Tree View" and "List View". Below the title bar is a toolbar with several icons and labels: "Thread", "Remove", "Collect", "Flag", "Clear Flag", "Mark Read", "Mark Unread", and a "Search" button with a magnifying glass icon. The main content area is a list of discussion items, each with a checkbox on the left, a subject line, the author's name, and the date and time. The items are:

- [Love Notarize](#) Jillian Bird 5/24/11 9:27 PM
- [RE: Love Notarize](#) Anne Spiegelman 6/4/11 9:18 PM
- [RE: Love Notarize](#) Jillian Bird 6/5/11 10:36 PM
- [RE: Love Notarize](#) Jillian Bird 6/5/11 10:37 PM
- [RE: Love Notarize](#) Jillian Bird 6/5/11 10:37 PM
- [Applications that may peak your interest](#) Amber Tran 5/30/11 12:23 PM

At the bottom of the interface, there is a footer bar with three buttons: "Refresh", "Expand All", and "Collapse All".



# Evaluation

- Student Demographic and Orientation Surveys
- Student and Faculty Satisfaction Surveys
- Student and Faculty Focus Groups
- Classroom Observation
- Course Evaluations

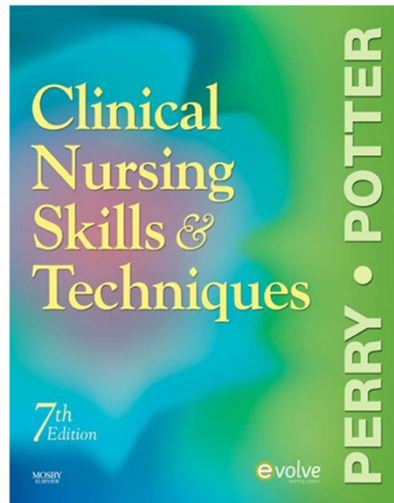
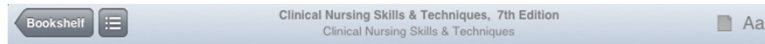


## Next...

- We are continuing with the FACT program again this year – new ebook provider.
- We are expanding to the traditional undergraduate program (entering students, not required for seniors)
- We are expanding to the DNP
- And we're moving to an alternative eBook source, Kno.



# Next: Changing from Elsevier Vital Source Bookshelf to Kno



## Clinical Nursing Skills & Techniques

7th ed.

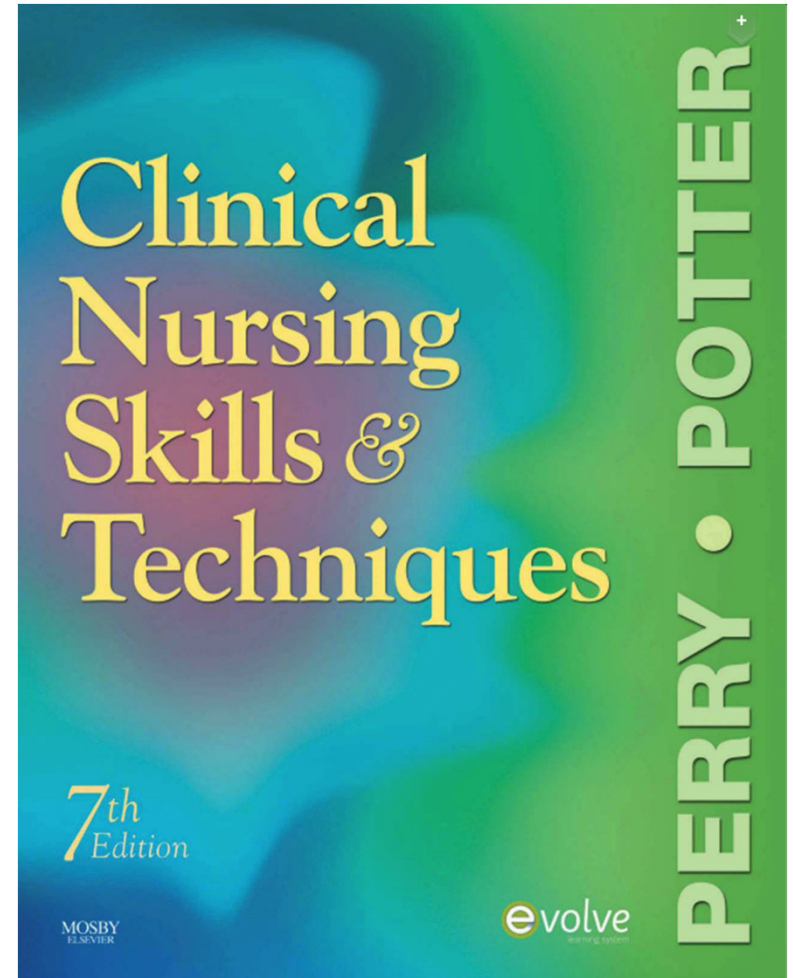
Anne Griffin Perry, RN, EdD, FAAN

Associate Dean and Professor, School of Nursing, Southern Illinois University–Edwardsville, Edwardsville, Illinois

Patricia A. Potter, RN, MSN, PhD, FAAN

Research Scientist, Siteman Cancer Center at Barnes-Jewish Hospital and Washington University School of Medicine, St. Louis, Missouri

**Section Editor**



# Next: Changing from Elsevier Vital Source Bookshelf to Kno

The screenshot shows the 'Bookshelf' interface for 'Clinical Nursing Skills & Techniques, 7th Edition'. A 'Contents' sidebar is open, listing the following sections:

- Clinical Nursing Skills & Techniques, 7th Edition
- Front Matter
  - Dedication
  - Contributors
  - Reviewers
  - Contributors to Previous Editions
  - Preface to the Student
  - Preface to the Instructor
- Unit I Supporting the Client Through the Health Care System
  - Chapter 1 Using Evidence in Nursing Practice
    - OBJECTIVES
    - KEY TERMS
    - A CASE FOR EVIDENCE
    - STEPS OF EVIDENCE-BASED PRACTICE
    - IMPACT OF EVIDENCE-BASED PRACTICE ON NURSING
    - CRITICAL THINKING EXERCISES
    - REVIEW QUESTIONS

At the bottom of the sidebar are buttons for 'Contents', 'Figures', and 'Notes'. The main content area shows a snippet of text from Chapter 1:

field are constantly changing. As new knowledge, changes in practice, treatment, or technology become available, they must be administered, to verify the recommended practice of administration, and the responsibility of the practitioner, relying on his or her ability to make diagnoses, to determine the needs of each individual patient, and to take all necessary actions to the fullest extent of the law, neither the publisher nor the author assumes any liability for any injury and/or damage to persons or property related to any use of the material contained herein.

The Publisher: Elsevier  
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The image displays a grid of 16 book covers for 'Clinical Nursing Skills & Techniques, 7th Edition' by Perry and Potter. The covers are arranged in a 4x4 grid and represent the following sections:

- Introduction, pCOVER
- Contents, pXXVII
- Chapter 1, p1
- Chapter 2, p10
- Chapter 3, p27
- Chapter 4, p44
- Chapter 5, p64
- Chapter 6, p106
- Chapter 7, p172
- Chapter 8, p187
- Chapter 9, p203
- Chapter 10, p227
- Chapter 11, p243
- Chapter 12, p259
- Chapter 13, p275
- Chapter 14, p291

# Next: Changing from Elsevier Vital Source Bookshelf to Kno

The screenshot shows the 'Bookshelf' interface for 'Clinical Nursing Skills & Techniques, 7th Edition, Chapter 10 Exercise and Ambulation'. A 'Contents' sidebar is open, listing the following sections for Chapter 10:

- Chapter 10 Exercise and Ambulation
  - OBJECTIVES
  - KEY TERMS
  - EVIDENCE-BASED PRACTICE TRENDS
  - CULTURAL CONSIDERATIONS
  - CRITICAL THINKING EXERCISES
  - REVIEW QUESTIONS
  - REFERENCES
  - RESEARCH REFERENCES
- Chapter 11 Orthopedic Measures
  - OBJECTIVES
  - KEY TERMS
  - FIG 11-1 Types of casts. A, Short arm cast. B, Long arm cast. C, One-and...
  - EVIDENCE-BASED PRACTICE TRENDS
  - CULTURAL CONSIDERATIONS
  - CRITICAL THINKING EXERCISES
  - REVIEW QUESTIONS

At the bottom of the sidebar are buttons for 'Contents', 'Figures', and 'Notes'. The main content area shows the start of the chapter text, including the heading 'Ambulation' and the beginning of a paragraph: '...will enable the nurse to: ...ting with ambulation or using devices to ...orming range-of-motion and isometric ...may develop in a patient wearing either ...l compression device. ...ent data to be noted before and during the ...tion machine. ...ent data to be noted before assisting with ...n and isometric exercises. ...skills on selected patients: assisting with ...ulation with the use of an ambulation aid, ...ercises, assisting with isometric ...s passive motion machine, and applying ...ompression device. ...selected patients for safety precautions to ...mbulation aid, applying and monitoring ...quential compression devices, using the ...range-of-motion and isometric exercises.'

This image displays a grid of 16 page thumbnails for Chapter 10, numbered 227 through 238. The thumbnails show various content types:

- 227: Chapter 10, p227 (Cover page)
- 228: Text page
- 229: Text page
- 230: Text page with a small illustration
- 231: Table
- 232: Diagram of a human leg showing joint movement
- 233: Diagram of a human leg showing joint movement
- 234: Diagram of a human leg showing joint movement
- 235: Diagram of a human leg showing joint movement
- 236: Diagram of a human leg showing joint movement
- 237: Text page with a small illustration
- 238: Text page with a small illustration



# Next: Changing from Elsevier Vital Source Bookshelf to Kno

rationales for the ROM exercises, and describe and demonstrate exercises to be performed.

- 4 Assess patient's level of comfort (on a scale of 0 to 10 with 10 being the worst pain) before exercises. Determine if patient would benefit from pain medication before beginning ROM exercises.
- 5 Wear clean gloves if wound drainage or skin lesions are present.
- 6 Assist the patient to a comfortable position, preferably sitting or lying down.
- 7 When performing active-assisted or passive ROM exercises ([Table 10-2, p. 232](#)), support joint by holding distal portion of extremity or using cupped hand to support joint (see illustration).

**STEP 7 A, Support joint by holding distal and proximal areas adjacent to joint. B, Support joint by cradling distal portion of extremity. C, Use cupped hand to support joint.**

- Orthodox Jews may not be able to operate a continuous passive motion (CPM) machine during Sabbath and Holy Days.
  - Consult the rabbi to obtain permission for the patient to use the CPM machine.
  - Nurses should be responsible for turning the CPM machine on and off during the Sabbath and Holy Days (Galanti, 2003).
  - Use gender-congruent care to apply elastic stockings and sequential compression devices for women from cultures that emphasize female modesty. Hindus, Muslims, and Orthodox women may not comply with the treatment measure for fear of being exposed to the opposite sex.
  - Most elder Asian, Hispanic, and African women prefer to bare their legs and thighs only to other women.
  - Provide for female privacy when assisting patients with ambulation.
  - Muslim females need to be fully covered when in public because of the emphasis on hijab, or female modesty (Simpson and others, 2008).
  - Southeast Asian women such as Cambodians, Vietnamese, and Laotians severely restrict exposure of their lower torso and will not likely ambulate unless properly dressed.
- Skill Performance Guidelines**
- 1 Check the physician's orders to determine the patient's activity level and type of exercises or assistive device.
  - 2 Know the patient's past medical history. Know why the patient needs assistance with ambulation and any contraindications or limits to exercise.
  - 3 Know the patient's normal range for vital signs. Vital signs vary. Exercise and mobility can be fatiguing and stressful, so a set of baseline vital signs is necessary.
  - 4 Assess baseline muscle strength. The patient may need muscle-strengthening exercises before ambulation.
  - 5 Assess baseline joint function. This determines whether range-of-motion (ROM) exercises are needed and provides a baseline for comparison of joint function after ROM exercises are performed.
  - 6 Obtain and become familiar with the type of assistive device to be used. Knowledge of proper preparation and use of devices is needed to be able to teach patients to use them safely and correctly.
  - 7 Prepare the patient. Make sure the patient is rested and not fatigued. Obtain extra personnel to assist, safety devices, and flat, nonskid shoes for the patient.
  - 8 Address the patient's fear of falling if present.
  - 9 Determine the type and frequency of intervention. Activity that is appropriate for one day or one shift can change, resulting in an increased or decreased need for assistance with ambulation or a change in the type of intervention.
  - 10 Know the patient's home care plan. The patient may need to continue the exercise regimen or use an assistive device at home.

## PROCEDURAL GUIDELINE 10-1 Performing Range-of-Motion Exercises

Basic / Safe Patient Handling / Performing Range-of-Motion Exercises

ROM exercises may be active, passive, or active assisted. They are active if the patient is able to perform the exercise independently and passive if the exercises are performed for the patient by the caregiver. In every aspect of activities of daily living (ADLs), encourage the patient to be as independent as possible. Active and passive ROM exercises are encouraged and supervised every day by the nurse. Incorporate active ROM exercises in the patient's ADLs (Table 10-1, p. 231). Incorporate passive ROM into bathing and feeding activities. Collaborate with the patient to develop a schedule for ROM activities.

### Delegation Considerations

The skill of performing ROM exercises can be delegated to nursing assistive personnel (NAP). Patients with spinal cord or orthopedic trauma usually require exercise by professional nurses or physical therapists. The nurse directs the NAP by:

- Reminding to perform exercises slowly and to provide adequate support to each joint being exercised.
- Cautioning not to exercise joints beyond the point of resistance or to the point of fatigue or pain.
- Discussing the patient's individual limitations or preexisting conditions such as arthritis that may affect ROM.

### Equipment

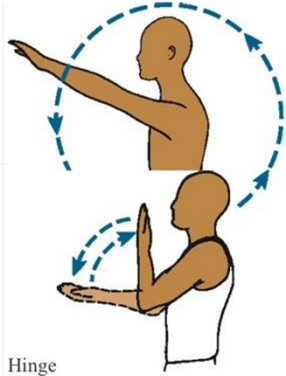

- No mechanical or physical equipment needed
- Clean gloves (*optional*)

### Procedural Steps





- 1 Review patient's chart for physical assessment findings, physician's orders, medical diagnosis, medical history, and progress.
- 2 Obtain data on patient's baseline joint function. Observe for limitations in joint mobility, redness, or warmth over joints, joint tenderness, deformities, or crepitus produced by joint motion.
- 3 Determine patient's or caregiver's readiness to learn. Explain all rationales for the ROM exercises, and describe and demonstrate exercises to be performed.
- 4 Assess patient's level of comfort (on a scale of 0 to 10 with 10 being the worst pain) before exercises. Determine if patient would benefit from pain medication before beginning ROM exercises.
- 5 Wear clean gloves if wound drainage or skin lesions are present.
- 6 Assist the patient to a comfortable position, preferably sitting or lying down.

Continued

# Next: Changing from Elsevier Vital Source Bookshelf to Kno

Elbow	 <p>Hinge</p>	Flexion: Bend elbow so that lower arm moves toward its shoulder joint and hand is level with shoulder	150	Bic brac
		Extension: Straighten elbow by lowering hand	150	Tric
Forearm	 <p>Pivotal</p>	Supination: Turn lower arm and hand so that palm is up	70-90	Sup brac
		Pronation: Turn lower arm so that palm is down	70-90	Pro proi

**TABLE 10-2** Range-of-Motion Exercises—cont'd

Body Part	Type of Joint	Type of Movement	Range (Degrees)	Primary Muscles
		Internal rotation: With elbow flexed, rotate shoulder by moving arm until thumb is turned inward and toward back	90	Pectoralis major, latissimus dorsi, teres major, subscapularis
		External rotation: With elbow flexed, move arm until thumb is upward and lateral to head	90	Infraspinatus, teres major, deltoid
		Circumduction: Move arm in full circle, (circumduction is combination of all movements of ball-and-socket joint)	360	Deltoid, coracobrachialis, latissimus dorsi, teres major
Elbow	Hinge	Flexion: Bend elbow so that lower arm moves toward its shoulder joint and hand is level with shoulder	150	Biceps brachii, brachialis, brachioradialis
		Extension: Straighten elbow by lowering hand	150	Triceps brachii
Forearm	Pivotal	Supination: Turn lower arm and hand so that palm is up	70-90	Supinator, biceps brachii
		Pronation: Turn lower arm so that palm is down	70-90	Pronator teres, pronator quadratus
Wrist		Flexion: Move palm toward inner aspect of forearm	80-90	Flexor carpi ulnaris, flexor carpi radialis
		Extension: Move fingers and hand posterior to midline	80-90	Extensor carpi radialis brevis, extensor carpi radialis longus, extensor carpi ulnaris
		Hyperextension: Bring dorsal surface of hand back as far as possible	80-90	Extensor carpi radialis brevis, extensor carpi radialis longus, extensor carpi ulnaris
		Radial deviation: Bend wrist laterally toward fifth finger	Up to 30	Flexor carpi radialis brevis, extensor carpi radialis brevis, extensor carpi radialis longus
		Ulnar deviation: Bend wrist medially toward thumb	30-50	Flexor carpi ulnaris, extensor carpi ulnaris

Continued

No way back from here, have to go to table of contents.

# Next: Changing from Elsevier Vital Source Bookshelf to Kno

rationales for the ROM exercises, and describe and demonstrate exercises to be performed.

4 Assess patient's level of comfort (on a scale of 0 to 10 with 10 being the worst pain) before exercises. Determine if patient would benefit from pain medication before beginning ROM exercises.

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6 Assist the patient to preferably sitting or lying down.

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**Equipment**

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**Procedural Steps**

- Review patient's chart for physical assessment findings, physician's orders, medical diagnosis, medical history, and progress.
- Obtain data on patient's baseline joint function. Observe for limitations in joint mobility, redness, or warmth over joints, joint tenderness, deformities, or crepitus produced by joint motion.
- Determine patient's or caregiver's readiness to learn. Explain all rationales for the ROM exercises, and describe and demonstrate exercises to be performed.
- Assess patient's level of comfort (on a scale of 0 to 10 with 10 being the worst pain) before exercises. Determine if patient would benefit from pain medication before beginning ROM exercises.
- Wear clean gloves if wound drainage or skin lesions are present.
- Assist the patient to a comfortable position, preferably sitting or lying down.

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rationales for the ROM exercises, and describe and demonstrate exercises to be performed.

4 Assess patient's level of comfort (on a scale of 0 to 10 with 10 being the worst pain) before exercises. Determine if patient would benefit from pain medication before beginning ROM exercises.

5 Wear clean gloves if wound drainage or skin lesions are present.

6 Assist the patient to a comfortable position, preferably sitting or lying down.

7 When performing active-assisted or passive ROM exercises (Table 10-2, p. 232), support joint by holding distal portion of extremity or using cupped hand to support joint (see illustration).

**STEP 7 A, Support joint by holding distal and proximal areas adjacent to joint. B, Support joint by cradling distal portion of extremity. C, Use cupped hand to support joint.**

- CHAPTER 10 Exercise and Ambulation 229
- Orthodox Jews may not be able to operate a continuous passive motion (CPM) machine during Sabbath and Holy Days.
  - Consult the rabbi to obtain permission for the patient to use the CPM machine.
  - Nurses should be responsible for turning the CPM machine on and off during the Sabbath and Holy Days (Galanti, 2003).
  - Use gender-congruent care to apply elastic stockings and sequential compression devices for women from cultures that emphasize female modesty. Hindus, Muslims, and Orthodox women may not comply with the treatment measure for fear of being exposed to the opposite sex.
  - Most elder Asian, Hispanic, and African women cover their legs and thighs only to other women.
  - Provide for female privacy when assisting patients with ambulation.
  - Muslim females need to be fully covered when in public because of the emphasis on hijab, or female modesty (Simpson and others, 2008).
  - Southeast Asian women such as Cambodians, Vietnamese, and Laotians severely restrict exposure of their lower torso and will not likely ambulate unless properly dressed.
- Skill Performance Guidelines**
- 1 Check the physician's orders to determine the patient's activity level and type of exercises or assistive device.
  - 2 Know the patient's past medical history. Know why the patient needs assistance with ambulation and any contraindications or limits to exercise.
  - 3 Know the patient's normal range for vital signs. Vital signs vary. Exercise and mobility can be fatiguing and stressful, so a set of baseline vital signs is necessary.
  - 4 Assess baseline muscle strength. The patient may need muscle-strengthening exercises before ambulation.
  - 5 Assess baseline joint function. This determines whether range-of-motion (ROM) exercises are needed and provides a baseline for comparison of joint function after ROM exercises are performed.
  - 6 Prepare the patient. Make sure the patient is rested and not fatigued. Obtain extra personnel to assist, safety devices, and flat, nonskid shoes for the patient.
  - 7 Determine the type and frequency of intervention. Activity that is appropriate for one day or one shift can change, resulting in an increased or decreased need for assistance with ambulation or a change in the type of intervention.
  - 8 Address the patient's fear of falling if present.
  - 9 Determine the type and frequency of intervention. Activity that is appropriate for one day or one shift can change, resulting in an increased or decreased need for assistance with ambulation or a change in the type of intervention.
  - 10 Know the patient's home care plan. The patient may need to continue the exercise regimen or use an assistive device at home.

## PROCEDURAL GUIDELINE 10-1 Performing Range-of-Motion Exercises

Basic / Safe Patient Handling / Performing Range-of-Motion Exercises

ROM exercises may be active, passive, or active assisted. They are active if the patient is able to perform the exercise independently and passive if the exercises are performed for the patient by the caregiver. In every aspect of activities of daily living (ADLs), encourage the patient to be as independent as possible. Active and passive ROM exercises are encouraged and supervised every day by the nurse. Incorporate active ROM exercises in the patient's ADLs (Table 10-1, p. 231). Incorporate passive ROM into bathing and feeding activities. Collaborate with the patient to develop a schedule for ROM activities.

### Delegation Considerations

The skill of performing ROM exercises can be delegated to nursing assistive personnel (NAP). Patients with spinal cord or orthopedic trauma usually require exercise by professional nurses or physical therapists. The nurse directs the NAP by:

- Reminding to perform exercises slowly and to provide adequate support to each joint being exercised.
- Cautioning not to exercise joints beyond the point of resistance or to the point of fatigue or pain.
- Discussing the patient's individual limitations or preexisting conditions such as arthritis that may affect ROM.

### Equipment

- No mechanical or physical equipment needed
- Clean gloves (optional)

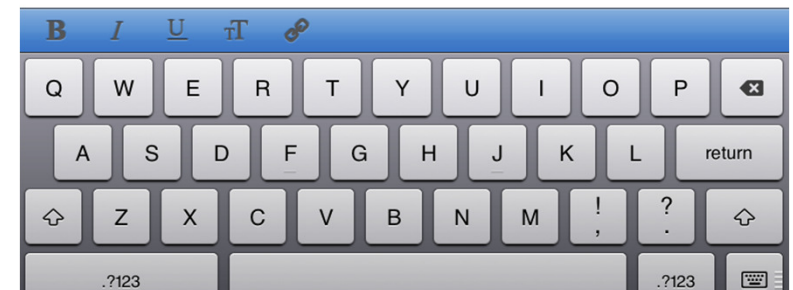
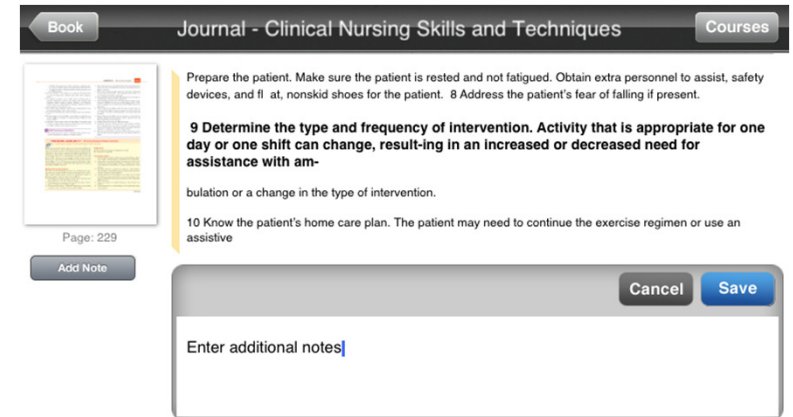
### Procedural Steps

- 1 Review patient's chart for physical assessment findings, physician's orders, medical diagnosis, medical history, and progress.
- 2 Obtain data on patient's baseline joint function. Observe for limitations in joint mobility, redness, or warmth over joints, joint tenderness, deformities, or crepitus produced by joint motion.
- 3 Determine patient's or caregiver's readiness to learn. Explain all rationales for the ROM exercises, and describe and demonstrate exercises to be performed.
- 4 Assess patient's level of comfort (on a scale of 0 to 10 with 10 being the worst pain) before exercises. Determine if patient would benefit from pain medication before beginning ROM exercises.
- 5 Wear clean gloves if wound drainage or skin lesions are present.
- 6 Assist the patient to a comfortable position, preferably sitting or lying down.

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- Kno collects the highlights I make and builds a “journal” I can use for review.







## Q & A

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