2016

Rehabilitation following a Total Hip Arthroplasty for an Individual with Polyarticular Juvenile Rheumatoid Arthritis: A Case Study

Anna Jung
University of North Dakota

Follow this and additional works at: https://commons.und.edu/pt-grad

Part of the Physical Therapy Commons

Recommended Citation
https://commons.und.edu/pt-grad/557

This Scholarly Project is brought to you for free and open access by the Department of Physical Therapy at UND Scholarly Commons. It has been accepted for inclusion in Physical Therapy Scholarly Projects by an authorized administrator of UND Scholarly Commons. For more information, please contact zeinelbyousif@library.und.edu.
Rehabilitation Following a Total Hip Arthroplasty
For An Individual With
Polyarticular Juvenile Rheumatoid Arthritis: A Case Study

by

Anna Jung
Doctor of Physical Therapy
University of North Dakota, 2016

A Scholarly Project Submitted to the Graduate Faculty of the

Department of Physical Therapy
School of Medicine and Health Sciences
University of North Dakota

in partial fulfillment of the requirements for the degree of

Doctor of Physical Therapy

Grand Forks, North Dakota
May, 2016
This Scholarly Project, submitted by Anna Jung in partial fulfillment of the requirements for the Degree of Doctor of Physical Therapy from the University of North Dakota, has been read by the Advisor and Chairperson of Physical Therapy under whom the work has been done and is hereby approved.

(Graduate School Advisor)

(Chairperson, Physical Therapy)
PERMISSION

Title        Rehabilitation of a Left Total Hip Arthroplasty in an Individual with Juvenile Rheumatoid Arthritis: A Case Study.

Department  Physical Therapy

Degree      Doctor of Physical Therapy

In presenting this Scholarly Project in partial fulfillment of the requirements for a graduate degree from the University of North Dakota, I agree that the Department of Physical Therapy shall make it freely available for inspection. I further agree that permission for extensive copying for scholarly purposes may be granted by the professor who supervised my work or, in her absence, by the Chairperson of the department. It is understood that any copying or publication or other use of this Scholarly Project or part thereof for financial gain shall not be allowed without my written permission. It is also understood that due recognition shall be given to me and the University of North Dakota in any scholarly use which may be made of any material in this Scholarly Project.

Signature Anna Jung SPT

Date 7/2/2015
# TABLE OF CONTENTS

LIST OF FIGURES ................................................................. v
LIST OF TABLES ................................................................. vi
ACKNOWLEDGEMENTS ......................................................... vii
ABSTRACT ................................................................. viii

<table>
<thead>
<tr>
<th>CHAPTER</th>
<th>BACKGROUND AND PURPOSE</th>
<th>10</th>
</tr>
</thead>
<tbody>
<tr>
<td>II.</td>
<td>CASE DESCRIPTION</td>
<td>12</td>
</tr>
<tr>
<td></td>
<td>Examination, Evaluation and Diagnosis</td>
<td>13</td>
</tr>
<tr>
<td></td>
<td>Prognosis and Plan of Care</td>
<td>17</td>
</tr>
<tr>
<td></td>
<td>Intervention</td>
<td>20</td>
</tr>
<tr>
<td></td>
<td>Outcomes</td>
<td>22</td>
</tr>
<tr>
<td>III.</td>
<td>DISCUSSION/REFLECTIVE PRACTICE</td>
<td>25</td>
</tr>
</tbody>
</table>

REFERENCES ................................................................. 32
LIST OF FIGURES

1. PROGRESSION TO AMBULATION ........................................ 23
2. INTERNATIONAL CLASSIFICATION OF FUNCTION MODEL ........ 25
3. DRIVING/RESTRAINING FORCES TO PARTICIPATE IN THERAPY 26
LIST OF TABLES

1. ACTIVE RANGE OF MOTION ........................................... 16
2. GROSS STRENGTH ...................................................... 16
3. TRANSFERS ................................................................. 17
4. AMBULATION ............................................................... 17
5. PATIENT/PT VALUES .................................................. 27
ACKNOWLEDGEMENTS

I would like to thank the faculty and staff of UND PT, my clinical instructor, and my fellow classmates for providing me with the educational tools for success and their assistance with this case study.
ABSTRACT

Background and Purpose- Juvenile Rheumatoid Arthritis (JRA) is an autoimmune disorder present in children under the age of 17, most commonly seen in females. In JRA, the immune system attacks the body's cells and tissues causing persistent joint swelling and stiffness. There are 3 principle types of JRA, systemic JRA, pauciarticular JRA and polyarticular JRA. Polyarticular JRA is classified as involving 5 or more large and small joints of the legs, arms, jaw and neck. The purpose of this case study was to illustrate the rehabilitation program used for a patient with JRA following a left total hip arthroplasty (THA) in an acute care setting.

Case Description- The patient was a 29 year old female with a diagnosis of Polyarticular JRA. This patient received physical therapy (PT) in the acute care setting following a minimally invasive THA using a posterior approach. This was the patient’s 7th total joint replacement surgery.

Intervention- Standard total hip arthroplasty post-operative protocol was implemented following her surgery. Interventions included gait training, bed mobility, transfer training, stair training, patient education and therapeutic exercise.

Outcomes- The patient was able to meet all physical therapy goals and was able to ambulate without an assistive device. She was deemed safe and able to return to home following 3 days in the hospital.
Discussion- Clinical decisions were made to accommodate for the patient's personal motivating forces as well as the patient's lack of financial resources. Investigation of preventative physical therapy versus surgical joint replacement for patients with JRA was recommended.
CHAPTER I
BACKGROUND AND PURPOSE

Juvenile Rheumatoid Arthritis (JRA) also known as juvenile idiopathic arthritis is the most common type of arthritis in children under the age of 17.¹ This disease is most commonly seen in females under the age of 16. JRA is an autoimmune disorder in which the immune system attacks the body's cells and tissues causing persistent joint swelling and stiffness. There are 3 main types of JRA; systemic, polyarticular and pauciarticular. Systemic JRA involves a total body systemic reaction that includes joint swelling, pain, fever and a rash. Polyarticular JRA involves 5 or more large and small joints of both the upper and lower extremities and may include joints of the jaw and neck. Pauciarticular JRA involves 4 or fewer joints, most commonly the wrists and knees. The incidence of JRA is approximately 6 cases per 10,000 children and it affects an estimated 294,000 children in the United States.² JRA is the leading cause of childhood disability, with the knee and hip being the primary joints affected. JRA often results in limited mobility and independence. Approximately 10% of all patients with JRA will have hip and knee arthritis that limits their mobility and function so much that a total joint replacement will be considered. When a joint replacement surgery is considered, premature growth plate closures must be noted to avoid
incorrect growth alignment. Total joint replacement surgeries for patients with JRA may provide reduction of pain, swelling and stiffness to improve function. The purpose of this case study was to illustrate the rehabilitative process in the acute care setting following a total hip arthroplasty of a patient who has a diagnosis of polyarticular JRA. Physical therapy for this patient followed a standard post-operative protocol guided by clinical decision making to ensure the best possible functional outcome.
CHAPTER II
CASE DESCRIPTION

The patient was a 29 year old female with a diagnosis of chronic polyarticular JRA, date of onset unknown. The patient's diagnosis of JRA had resulted in multiple total joint replacement surgeries. The patient, who did not have an occupation, resided with her father who was her primary caregiver. She had a supportive family that assisted her with her care and mobility.

Her past medical history along with polyarticular JRA included acquired hemolytic anemia, TMJ dislocation, difficult airway for intubation, insomnia, red blood cell antibody positive, unspecified myalgia, myositis, and unspecified osteoporosis. Her previous surgical procedures included bilateral total knee arthroplasty (TKA), left shoulder replacement, right shoulder replacement, right elbow replacement, and right hip replacement within a 9-year period. The patient was initially seen in physical therapy (PT) following her 7th joint replacement surgery, a left THA, posterior approach. Prior to surgery, the patient was not receiving any PT services. The patient's prior level of physical functioning was limited to household ambulation and partial community ambulation. She did not utilize an assistive device for short distance ambulation in the home but did use a motorized wheelchair for community locomotion. The patient only left the home for short durations or for doctor's appointments and she required the assistance
of her father or another family member when she went out into the community. The patient is right hand dominant, however; due to the progressive nature of JRA and previous surgical complications (right hand contractures and nerve damage), she used her left hand predominantly. The patient lived in a 1 story home with her father, with 4 steps and 1 rail to enter the home. It was anticipated that the patient would discharge to her home with her father following her hospitalization. The patient’s therapy interventions included gait training, bed mobility training, transfer training, patient education and home exercise program (HEP) training. All PT goals would need to be met prior to returning home otherwise a transitional care unit would be advised.

Examination, Evaluation and Diagnosis

The patient denied problems in the following areas: eyes, cardiovascular, respiratory, gastrointestinal, genitourinary, skin, neurologic, endocrine, and hemolymphatic system but did acknowledge temporal mandibular joint (TMJ) discomfort and decreased mobility of jaw and neck. Psychological functioning such as memory reasoning ability, depression, and anxiety was reported as within normal limits (WNL). Limited mobility resulted in reduced functioning in the community, leisure activities, and social activities. The patient had adequate social support from her father and other family members. The patient did not acknowledge or identify any social activities in which she participated. No use of tobacco or alcohol was reported and the patient participated in little to no regular
physical fitness activities. The patient's level of physical functioning was limited to independent household ambulation and community locomotion with the use of a motorized wheelchair. Prior to surgery she was independent in most activities of daily living (ADLs) and did not require an assistive device for short distance ambulation. Prior to surgery, the patient was dependent on her father for almost all ADLs such as cooking, driving, shopping, and picking up her medications. The patient was independent in managing her finances, using the telephone and computer, and managing her medications. The patient had no communication barriers, was alert, awake and followed commands at all treatment sessions. She preferred visual and verbal demonstrations for all education of bed mobility, transfers, exercise program, and precaution education.

During the patient's episode of care, lab values and vitals were taken regularly throughout. Normal hemoglobin levels for a female are 12.0 to 15.5 gm/dL. Hemoglobin levels below 8.0 gm/dL are a contraindication for exercise and usually require a blood transfusion. Prior to surgery, the patient had a hemoglobin level of 11.7 gm/dL and following surgery she had a level of 8.5 gm/dL on post-operative day 0. On post-operative day 1 she had a level of 8.8 gm/dL. The patient had approximately a 3-point drop of hemoglobin but did not drop below 8.0 gm/dL. Consequently, the patient was not a candidate for a blood transfusion and was still able to participate in exercise. A normal international normalized ratio (INR), the measure of the time it takes the blood to clot, should be maintained between 2.0-3.0. The patient's INR was monitored because she was taking Warfarin, a blood thinner, following the surgery. The patient's INR
ratio on post-operative day 0 was 1.2 and on post-operative day 1 was 2.1. The patient only remained on Warfarin during post-operative day 0. Prior to discharge, the patient’s INR ratio was within normal limits (WNL). The patient’s vital signs on day 0 post-operative were 99 beats per minute (bpm) for a resting heart rate, 16 breaths per minute for resting respiratory rate, 115/74 millimeters of mercury (mm/Hg) for resting blood pressure, and a temperature of 99.4 degrees Fahrenheit. Prior to discharge her vital signs were 96 bpm, 16 breaths per min, 136/79 mm/Hg, and a temperature of 98.8 degrees Fahrenheit. Temperature and blood pressure were both noted in her chart and all lab values were tracked and made available to her surgeon and physician assistant prior to her discharge. The patient’s skin integrity and color were WNL and her scar at the surgical site on the left hip following the surgery was in phase 1 (inflammation) of scar formation and wound healing. All other scars from previous surgeries were in phase 3 (maturation) of scar formation.

The patient’s posture, when viewed anteriorly and posteriorly, presented with bilateral flexion at the elbows, hips, knees, ankles and the right wrist and hand. She presented with rounded shoulders and a forward flexed head posture. When viewed laterally, the patient had a rounded, kyphotic, upper thoracic back posture as well as a crouched posture in standing due to flexion contractures in the lower extremities.

Active range of motion (AROM), passive range of motion (PROM), strength and functional assessments were performed at the initial evaluation, post-operative day 1. All values are found in Tables 1-4 below.
Table 1
Active Range of Motion

<table>
<thead>
<tr>
<th>Upper and Lower Extremity AROM</th>
<th>Left (degrees)</th>
<th>Right (degrees)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shoulder Flexion / Abduction / Scaption</td>
<td>0-90</td>
<td>0-90</td>
</tr>
<tr>
<td>Shoulder Extension / IR / ER</td>
<td>0-20 / 0-30 / 0-50</td>
<td>0-20 / 0-30 / 0-50</td>
</tr>
<tr>
<td>Elbow Flexion</td>
<td>30-90</td>
<td>60-90</td>
</tr>
<tr>
<td>Wrist and Hand</td>
<td>WNL</td>
<td>No functional use</td>
</tr>
<tr>
<td>Hip Flexion / Abduction / Adduction</td>
<td>0-90 / 0-25 / 0</td>
<td>20-90 / 0-25 / 0</td>
</tr>
<tr>
<td>Knee Flexion</td>
<td>20-120</td>
<td>5-120</td>
</tr>
<tr>
<td>Ankle Dorsiflexion</td>
<td>0</td>
<td>No AROM/PROM</td>
</tr>
<tr>
<td>Ankle Plantarflexion</td>
<td>0-40</td>
<td>20-40</td>
</tr>
</tbody>
</table>

Table 2
Gross Strength

<table>
<thead>
<tr>
<th>Manual Muscle Testing</th>
<th>Left</th>
<th>Right</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shoulder Flexion / Abduction / Adduction / Extension</td>
<td>2/5</td>
<td>2/5</td>
</tr>
<tr>
<td>Elbow Flexion</td>
<td>3/5</td>
<td>3/5</td>
</tr>
<tr>
<td>Hip Flexion / Extension / abduction / adduction</td>
<td>2/5</td>
<td>2/5</td>
</tr>
<tr>
<td>Hip External Rotation / Internal Rotation</td>
<td>2/5 / 1/5</td>
<td>2/5 / 1/5</td>
</tr>
<tr>
<td>Knee Flexion / Extension</td>
<td>3/5</td>
<td>3/5</td>
</tr>
<tr>
<td>Ankle Plantarflexion / Dorsiflexion</td>
<td>4/5 / 1/5</td>
<td>4/5 / 1/5</td>
</tr>
<tr>
<td>Trunk</td>
<td></td>
<td>3/5</td>
</tr>
</tbody>
</table>
Table 3  
Transfers

<table>
<thead>
<tr>
<th></th>
<th>Day 1 (initial eval)</th>
<th>Day 2</th>
<th>Day 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bed Mobility</td>
<td>Min assist</td>
<td>Min assist</td>
<td>Independent</td>
</tr>
<tr>
<td>Supine to Sit</td>
<td>Min assist</td>
<td>Contact Guard Assist (CGA)</td>
<td>Independent</td>
</tr>
<tr>
<td>Sit to Stand</td>
<td>Min assist</td>
<td>CGA</td>
<td>Independent</td>
</tr>
</tbody>
</table>

Table 4  
Ambulation

<table>
<thead>
<tr>
<th></th>
<th>Day 1 (initial eval)</th>
<th>Day 2</th>
<th>Day 3</th>
<th>Day 3-Stairs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Level of Assist</td>
<td>Min assist</td>
<td>Mod assist</td>
<td>CGA</td>
<td>CGA</td>
</tr>
<tr>
<td>Assistive Device</td>
<td>2 wheeled</td>
<td>2 axillary crutches</td>
<td>Hand held assist</td>
<td>Hand held assist</td>
</tr>
<tr>
<td></td>
<td>walker</td>
<td>1 axillary crutch</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Adaptations</td>
<td>Bilateral arm</td>
<td>2 arm platform attachments</td>
<td>-</td>
<td>1 handrail</td>
</tr>
<tr>
<td></td>
<td>platforms attachments</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Distance Ambulated</td>
<td>120 feet</td>
<td>120 feet</td>
<td>120 feet</td>
<td>4 steps 1 rail</td>
</tr>
</tbody>
</table>

Prognosis and Plan of Care

The patient had a good prognosis to meet all previously stated goals and return to her prior level of function before surgery. The patient was projected to be independent with all self-cares, return to prior level of function of minimum to moderate assist for all home management, return to prior level of community.
locomotion with her motorized wheelchair, and independence with all transfers at time of discharge. It was anticipated that arm platforms for a walker and crutches may be required for household ambulation if her goal was not met. Anticipated duration and frequency of physical therapy interventions were 30-minute sessions, twice daily during her length of stay at the hospital. Patient discharge would occur when she was deemed safe to be independent in her home with assistance from her family.

The patient's plan of care included administering the hospital's THA (posterior approach) post-operative protocol.\textsuperscript{6, 7, 8, 9, 10} Restrictions in hip ROM specified in the posterior approach post-operative protocol included no flexion past 90 degrees, no internal rotation, and no adduction past neutral.\textsuperscript{7, 9} Procedural interventions such as bed mobility training, transfer training, gait training, precautions education, patient/family education, therapeutic exercise and stair training were also included in this protocol.\textsuperscript{3, 4, 5, 6, 7}

The patient's plan of care included communication with all related hospital staff regarding the patient's care which included her surgeon, physician assistant, nursing staff, social worker, and occupational therapist.\textsuperscript{11} All of the staff involved in the patient's episode of care worked as a team to provide patient and family instruction on post-surgical care and devices or therapy interventions that may be required upon discharge from the hospital. All services and interventions provided to the patient were documented. In order for the patient to return to her home, she would have to meet all discharge criteria and goals, otherwise a
transitional care unit would be recommended. The patient’s rehabilitation goals for her episode of care are outlined in Table 5.

Table 5

Rehabilitation Goals

<table>
<thead>
<tr>
<th>Functional Task</th>
<th>Goal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bed Mobility</td>
<td>Following PT intervention, patient will be independent with all bed mobility in order to be safe in her living environment and decrease caregiver burden, to be met by D/C from hospital in order to return to home.</td>
</tr>
<tr>
<td>Transfers</td>
<td>Following PT intervention, patient will be independent with all transfers (bed to/from chair, sit to/from stand) in order to decrease caregiver burden and be safe in her living environment, to be met by D/C from hospital in order to return to home.</td>
</tr>
<tr>
<td>Ambulation</td>
<td>Following PT intervention, patient will independently be able to ambulate 150 feet without an assistive device to allow her to access all areas of her home, to be met by D/C from hospital in order to return to home.</td>
</tr>
<tr>
<td>Stairs</td>
<td>Following PT intervention, patient will be able to asc/desc 4 steps with 1 rail with CGA in order for her to be able to enter and exit her home safely, to be met by D/C from hospital in order to return to home.</td>
</tr>
<tr>
<td>Home Exercise Program</td>
<td>Following PT intervention, patient will be independent with her HEP in order for her to gain the strength and mobility needed for bed mobility, transfers and ambulation (to be met by D/C from hospital).</td>
</tr>
<tr>
<td>Precautions Education</td>
<td>Following PT intervention, patient will be able to independently repeat all posterior hip precautions in order to protect the surgery and prevent dislocation (to be met by D/C from hospital).</td>
</tr>
</tbody>
</table>
Intervention

The patient's interventions included skills that would be necessary for her safety and success upon discharge from the hospital to her home. Interventions followed the post-operative protocol for all THAs with a posterior approach. Interventions included were patient/client related instruction, bed mobility training, transfer training, ambulation training, stair training, precautions education, parent/family education, strength training exercises and ROM exercises.\textsuperscript{5, 6, 7, 8}

Patient instruction included verbal cues and demonstration given to patient for correct technique of bed mobility and transfers. A home exercise program and education about her precautions were given to the patient along with verbal and tactile cues for all activities.\textsuperscript{10}

Bed mobility and transfer training included providing the patient with a safe and energy efficient way to perform all bed mobility and transfers while keeping posterior hip precautions by using a log roll technique. Transfer training was provided during every treatment session each time the patient got in or out of bed or performed a sit to or sit from stand movement. The total time spent during each treatment session for transfer training was about 10 minutes.

Ambulation and stair training instructions were provided during treatment sessions to provide safe and energy-efficient methods of mobility within the home, with or without assistive devices. Approximately 15 minutes of each session was dedicated to ambulation and stair training.\textsuperscript{10}

Precautionary education provided the patient and family with the correct post-surgical precautions to ensure protection for the joint and prevention of a
future dislocation. Approximately 5 minutes of the initial treatment session was provided for education on precautions and reminders were provided during each treatment session when activities were performed.

Strengthening and ROM exercises were provided to the patient during each treatment session to help assist her in future functional activities and to provide musculoskeletal support for the recent surgery. A home exercise program was given to the patient prior to her discharge. Approximately 10-15 minutes during each treatment session was dedicated to therapeutic exercises, with verbal and tactile cues promoting understanding.

Coordination with patient, family, and hospital staff was included throughout the episode of care, which was vital for discharge planning. A walker or crutches with platforms were available for purchase from the PT department if the patient was unable to ambulate independently prior to discharge. Coordination with the social worker was provided to the patient to facilitate arrangements for home physical therapy services upon discharge to continue with the post-surgical rehabilitation process.
Outcomes

The patient was seen in the acute care setting with a primary diagnosis of polyarticular JRA and a treatment diagnosis of a left THA posterior approach due to arthritic changes within the joint. During her stay at the hospital, the patient was able to regain her functional mobility and strength. Prior to discharge, she became independent with all bed mobility and transfers. The patient was near her prior level of function in regards to ambulation and stairs and did not require an assistive device. She only required hand-held assist from a therapist or family member for short distances and for the 4 stairs in her goal. Daily progress was made in reducing the level of assistance she needed for ambulation. The patient started with a 2 wheeled walker with bilateral arm platform attachments (raised platforms that cradle and stabilize the forearm and hand) and then progressed to 1 arm platform on the walker, to 2 crutches with bilateral arm attachments, followed by 1 crutch with 1 arm attachment, and finally hand-held assist prior to discharge (Figure 1). Upon reaching her goal, she did not have to purchase an assistive device or platform attachments which coincided with her personal goals.
She was also independent in her home exercise program as well as the ability to follow her post-surgical precautions. The patient was able to meet all of her physical therapy and occupational therapy rehabilitation goals which allowed her to be discharged to her home with her family. Following discharge from the hospital, the patient was advised to continue with her current home exercise program and continue to follow her post-surgical precautions to prevent future decreases in strength and to protect the surgery site. Home physical therapy for her continued care upon her arrival to her home was coordinated through the hospital's social worker with the patient and patient’s family. Upon the patient's discharge to home, she still required the assistance of her father and family members for her continued care due to her limited mobility status.

Upon discharge, the patient was satisfied because she was able to be independent with short distance ambulation. Therefore, she did not need to
purchase a walker/crutch with a platform attachment and she did not need to go
to a transitional care unit.
Throughout this patient's episode of care, clinical decisions were required in order for the patient to receive the best possible care. The International Classification of Function Model (ICF) was used to evaluate the patient's data and identify problem areas of function for the patient (Figure 2). The ICF model was also used throughout her care for decision making processes because it paralleled her diagnosis. It also allowed individual factors pertaining to her care and her previous and current functional level to be addressed throughout.

Fig. 2. International Classification of Function Model
The patient's health condition was JRA and a left THA. The patient's current body structure/function included extremely limited ROM and decreased strength in the upper and lower extremities, bilaterally. The patient's decreased ability in gait and locomotion was her limited functional activity level. She was unable to participate in the workforce and relied on her father and family members for all community participation. The patient experienced both environmental and personal factors that contributed to her willingness to participate in therapy. The patient had positive and negative factors, internally and externally, that influenced her motivation to participate in her treatment sessions and meet her outlined goals (Figure 3). The patient's personal driving forces during her therapy sessions included; to gain more mobility, to be out of pain, to be with her family and to be in her own home. The patient's personal restraining forces during her therapy sessions included; decreased range of motion, lack of family support, decreased strength, and prior co-morbidities.

**Fig. 3. Driving and Restraining Factors to participate in therapy**
Throughout her episode of care, there were personal values of both the patient and the physical therapist that contributed to the interactions and the cohesiveness of the PT/patient relationship (Table 6). The patient and the PT shared personal values that enhanced both the outcomes of the patient as well as the patient's satisfaction following her episode of care. Those values that were shared throughout the treatment period are highlighted in the table below.

**Table 6**

<table>
<thead>
<tr>
<th>Patient Personal Values</th>
<th>PT Personal Values</th>
<th>PT Professional Values</th>
</tr>
</thead>
<tbody>
<tr>
<td>Well being</td>
<td>Compassion</td>
<td>Accountability</td>
</tr>
<tr>
<td>Mobility</td>
<td>Caring</td>
<td>Professionalism</td>
</tr>
<tr>
<td>Family</td>
<td>Accountability</td>
<td>Compassion</td>
</tr>
<tr>
<td>Honesty</td>
<td>Excellence</td>
<td>Integrity</td>
</tr>
<tr>
<td>Independence</td>
<td>Family/Friends</td>
<td>Excellence</td>
</tr>
<tr>
<td>Respect</td>
<td>Faith</td>
<td>Respect</td>
</tr>
<tr>
<td>Compassion</td>
<td>Empathy</td>
<td>Honesty</td>
</tr>
<tr>
<td>Thankfulness</td>
<td>Well being</td>
<td>Empathy</td>
</tr>
<tr>
<td></td>
<td>Honesty</td>
<td>Communication</td>
</tr>
</tbody>
</table>

*Highlighted Values are those that are shared between patient and PT.

Throughout the episode of care, the patient's biggest priority was to ambulate independently not only to regain her independence and mobility but also because of her financial situation. From the start of her episode of care, she
notified the therapy staff that she would be unable to afford to purchase a walker, crutches or the platforms that she would need in order for an assistive device to fit her correctly. She stated that, after her previous surgery, the therapy staff had also presented her with the same options for an assistive device but she did not need them and was able to ambulate independently upon discharge. Clinical decisions had to be made throughout her episode of care to ensure quality care was being provided so that she could ambulate independently by discharge in a safe manner. Adapted assistive devices were used to accommodate for her range of motion limitations and progress was made each day to eventually reach independent ambulation (Figure 1). Through quality care and the patient’s motivation, she was able to perform ambulation without an assistive device and therefore she did not have to purchase any new equipment.

Throughout this case, current motivation and previous interaction with health care providers had to be considered when treating an adult patient who had a chronic, pediatric-onset condition. Both the health care provided and the interactions with the patient had to occur in a different manner because this client had been through the health care process multiple times.

According to Ogelby and Goldstein,\textsuperscript{11} interdisciplinary care is a vital part of caring for those children with complex conditions. An interdisciplinary approach is important for children or adults with pediatric conditions to optimize care in the multiple different settings that they may find themselves receiving care throughout their life. A team based approach will expand and involve more key professionals and has been shown to improve outcomes with earlier involvement.
Standards of care related to the importance of an interdisciplinary care team is structured around the child and family, equipped to address physical, psychosocial, emotional, practical and spiritual needs of the child and family. The authors have also concluded that a true holistic approach will provide genuine coordination of care, starting at the time of diagnosis and continuing throughout the patient’s need of care including transitions.

Throughout this case study, it was questionable if this patient received interdisciplinary care or a team-based approach to care from the time of her initial diagnosis to her current episode of care. Due to the inability to obtain a complete historical background, it was not possible to confirm the mode of intervention provided. Due to the progressiveness of the disease and the patient’s current limitations in ROM and strength, questions arose whether or not care was provided from appropriate disciplines throughout her lifetime. If each individual discipline had provided accurate care, it was also questioned if the patient’s outcome would have been different. Due to the patient’s significant ROM, strength, and functional limitations, it was suspected that program of care may have been stopped or reduced after she was no longer considered a pediatric patient.

In the future, when treating any patient, it is recommended that the patient be provided with an interdisciplinary approach to ensure that the patient’s needs are not neglected and the highest possible quality of care is provided. As well, when treating a patient with a pediatric onset disease, it is important that care is be continued and maintained at an appropriate level regardless of age. In
situations where patients transition from pediatric care to adult care, it is recommended that follow-up is implemented to ensure continued provision of services. It is the responsibility of all health care providers to ensure that patients receive the highest quality of care to prevent future limitations.

Further research would be beneficial to address several questions for patients who have JRA or another similar pediatric-onset chronic condition. Several questions were considered specific to this case relative to this patient’s extensive past medical history. Regarding joint replacement surgeries\textsuperscript{2, 3, 13, 14, 15, 16, 17} should surgeries be considered the best practice with patients who have JRA or may surgeries be prevented with physical therapy? Is it possible that physical therapy may slow the disease process or improve a patient’s quality of life with a patient who has JRA is another factor to be considered.\textsuperscript{4, 18} Would this patient have had a different outcome if she had participated in consistent physical therapy treatments to maintain her ROM and strength?

Throughout this case, many factors were evaluated during the course of treatment. JRA was seen in a patient who was past the age of being considered a pediatric patient. This patient had an extensive past surgical history and her current episode of care was for a seventh joint replacement surgery. Clinical decisions were determined throughout the current course of treatment to accommodate ROM, strength, functional and financial limitations. During this case, many questions were considered about intervention with patients who have JRA, such as the role of physical therapy, joint replacement surgeries, and interdisciplinary teamwork. It is recommended that further research would be
completed regarding these questions and concerns when providing care for an adult patient with the diagnosis of JRA.
REFERENCES


doi: [http://dx.doi.org.ezproxy.undmedlibrary.org/10.1016/j.jse.2014.03.012](http://dx.doi.org.ezproxy.undmedlibrary.org/10.1016/j.jse.2014.03.012).
