

Golfers Must Golf! **The Transition Phase for Returning to Golf**



Sue Blackmore MS, OTR/L, CHT, COMT UL

ASHT ANNUAL MEETING 2021

Introduction

- Speakers/Golfers
 - Sue Blackmore
 - Nancy Cannon
 - Danielle Sparks
- ASHT Annual Meeting 2020 – Golfers Must Golf!
Innovative Approaches to Treatment and Marketing
- Nothing to disclose

Who can benefit?

- Your patients when there are minimal > no upper limb restrictions post injury or surgery
- Golfers who have not had an injury, yet hope to improve their game and want the knowledge to prevent injuries
 - Referral from golf pro who notices swing faults in the UE

Don't forget!

- Engage your golfing patient in "the game" even if not ready to swing or practice.



It's a whole body sport

- Evaluation & Treatment Approaches
 - Golf swing assessment & recommendations
 - Golf equipment assessment & recommendations
 - Core, Lower and upper quarter and spine
 - Strengthening, flexibility, endurance building and motor control (based on movement screens)
- **GOAL: Identify and resolve biomechanical impairments leading to swing faults. A therapist is not the swing coach.**

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Nancy M. Cannon, OTR, CHT



ASHT ANNUAL MEETING 2021

Golf Handouts

- www.indianahandtoshoulder.com
 - Click on therapy
 - ASHT golf talks 2021
- Golf Evaluation Forms
- Flexibility Exercises
 - Golf-specific
- Endurance & Strengthening Exercises
 - Golf-specific
- Practice & Play Schedule
- Patient Education – Injury Prevention



Golf Evaluation

- Existing Patient
 - Late stage, transition phase for returning to golf
 - Limited or no restrictions (ease the patient back into play)
- Outside Referral – Golfer
 - Injury prevention program
 - Golf improvement program



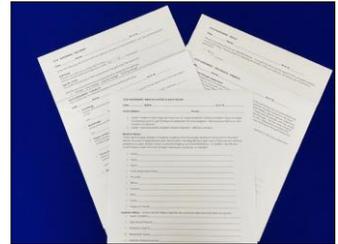
Golf Evaluation

- Indiana Hand to Shoulder Center (IHTSC)
- Goals of the Evaluation – Therapists
 - Therapist (golfer or non-golfer) able to complete the golf evaluation
 - Therapist able to establish a quality home exercise program
 - Therapist can provide basic golf swing & equipment recommendations (patient can provide to the golf pro or golf fitter)



Golf Evaluation

- Areas of Assessment
 - Medical history
 - Golf history
 - Flexibility
 - Endurance & strength
 - Golf swing
 - Golf equipment



Golf Evaluation

- Medical History
 - Whole body
 - Past or present medical conditions, injuries or surgeries
- Golf History – Background
 - Years playing golf
 - Frequency of play
 - Quality of play
 - Wear a strap or brace while golfing?

INDIANA HAND TO SHOULDER CENTER GOLF EVALUATION
GOLF ASSESSMENT MEDICAL HISTORY & GOLF HISTORY

Name: _____ Age: # _____
 Title: _____ Phone: _____
 Email Address: _____

Golfer – Patient is in stage recovery from an upper extremity medical condition, injury or surgery transitioning back to golf (therapy re-assessment & home program – educational; follow-up with transition handout)

Golfer – Injury prevention program (golf evaluation – self-play scenario)

Medical History:
 Check all which apply (include or medical conditions that have been treated at some point in the past) identify the most or appropriate area, the location (include left & right) and if there are any residual problems (i.e. joint, limited motion, numb/tingling, functional limitations). In addition, identify any current medical care being or has been treated by a physician or therapist.

Neck _____
 Neck _____
 Spine _____
 Neck/Shoulder/Elbow _____
 Shoulder _____
 Elbow _____

Golf Evaluation

- Flexibility – Static & Dynamic
 Focus is on...
 - Key muscles involved in the golf swing
 - Key muscles and joints at risk for injury (injury prevention)

GOLF ASSESSMENT FLEXIBILITY
 Information assist in determining the key exercises to increase flexibility for the optimal golf swing.

Name: _____ Age: # _____
 Title: _____

Neck/Shoulder/Elbow
 Stand with the knee straight, actively flex the hip. Measure the hip flexion once the knee begins to flex.
 Left: _____ Right: _____ Left passively: _____ Right passively: _____

Shoulders
 Stand with the knee flexed. Measure active and passive knee flexion.
 Left: _____ Right: _____ Left passively: _____ Right passively: _____

Flexion of the Spine
 Three hundred men of the wrist and elbow the fingers to touch the ground. The measurement is taken from the middle finger fingertip to the ground. This is the height to floor method for flexion of the spine.

Flexion/Extension/Rotation (flexion of the shoulder and spine of the wrist level)
 While sitting, using a measuring tape, measure from the left hip. In a diagonal fashion to the opposite knee extension.
 Left extension: _____ Right extension: _____

Golf Evaluation

Endurance & Strength

Focus is on...

- Key muscles involved in the golf swing
- Key muscles and joints at risk for injury (Injury prevention)

GOLF ASSESSMENT: ENDURANCE - STRENGTH
 Date: _____ Name: _____ Age: # _____

Performance Through Assessment
 This type of assessment is to evaluate the key muscles involved in the golf swing and commonly use of golf equipment. Identify the primary muscle involved in the back swing, down swing and follow through through the golf swing. Identify the primary muscle involved in the back swing, down swing and follow through through the golf swing. Identify the primary muscle involved in the back swing, down swing and follow through through the golf swing. Identify the primary muscle involved in the back swing, down swing and follow through through the golf swing.

Muscle Assessment (Use the following questions to evaluate your performance in the golf swing and follow through through the golf swing and follow through through the golf swing.)

- Back: Number of repetitions to fatigue with prone extension exercise (x10 for golf.)
- Chest: Number of repetitions to fatigue with overhead push-ups (20 for push-ups (single arm))
- Ab: Number of repetitions to fatigue with sit-ups on floor (times flexed, perform full rotation (left to right) in set)
- Latissimus Dorsi: Number of repetitions to fatigue with lat pull-down (x10 for golf.)

Golf Evaluation

Golf Swing (patient brings clubs to their evaluation)

- Set up
- Take away
- Back swing
- Down swing
- Impact
- Follow through

GOLF ASSESSMENT: SWING
 Date: _____ Name: _____ Age: # _____

History (Mechanical faults are identified below. Your golf pro serves as the expert in the complete analysis of your golf swing. Please share the following information with your golf pro. Should you be interested in golf lessons.)

- Set up
- Take away
- Placement of club in stance
- Backswing
- Downswing
- Impact
- Follow through
- Overall swing speed - Take away to follow through
 - Smooth and delicate
 - Fast and furious

Golf Evaluation

Golf Equipment (patient brings clubs to their evaluation)

- Clubs
 - Grip
 - Shaft
 - Head
- Golf Ball
- Glove
- Tees



GOLF ASSESSMENT: EQUIPMENT
 Date: _____ Name: _____ Age: # _____

Share the following information with your golf pro. Should you be interested in any new golf equipment. Identify the club you use in your current set of clubs. New club combination with a new club. New club combination with a new club. New club combination with a new club. New club combination with a new club.

Identify Club
 (Note: The golfer should bring the golf clubs they play with to their appointment.)

Identify the club you use in your current set of clubs. New club combination with a new club. New club combination with a new club. New club combination with a new club. New club combination with a new club.

- Wedges: Sand wedge, Gap wedge, Pitching wedge
- # 1, 2, 3, 4, 5, 6, 7, 8, 9, 10
- # 1, 2, 3, 4, 5, 6, 7, 8, 9, 10
- Driver
- Putter
- Other comments: _____

Notes:
 Right: right-hand use
 Recommended (strong grip) (strong recommended) _____
 Right: right-hand use
 Right: right-hand use
 Right: right-hand use
 Right: right-hand use

Advanced Level of Evaluation & Conditioning

TPI (Titleist Performance Institute)



- Software programs to analyze golf clubs, the swing, UE/LE and trunk flexibility & strength
- Ideal for lower handicap golfers

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Danielle Sparks, DHS, MOT, OTR, CHT



Golf Swing Assessment

- Identify mechanical faults
- Identify golf equipment concerns
- Recommendations for correction – golf pro



Golf Swing Assessment Handout

GOLF ASSESSMENT SWING
 Date: _____ Name: _____ Acct # _____

Primary mechanical faults are identified below. Your golf pro serves as the expert in the complete analysis of your golf swing. Please share the following information with your golf pro, should you be interested in golf lessons.

Set up

Golf grip _____

Stance _____

Placement of club in stance _____

Take away _____

Backswing _____

Downswing _____

Impact _____

Follow through _____

Overall swing speed—take away to follow through

Smooth and deliberate

Golf and humus

Identify Mechanical Faults

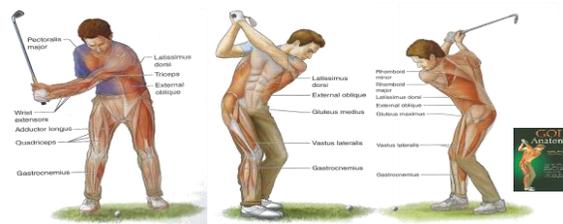
- What is normal?
 - Every body is different
 - Have to utilize "activity analysis" skills
 - Must have an idea of "typical" movement or swing
 - Must observe the activity
 - record if able to use slow motion



Identifying Mechanical Faults

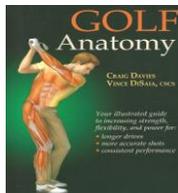
- Flexibility- "the ability of a muscle/muscle groups to **lengthen** passively through range of motion"
- Mobility- "the ability to **move** actively through range of motion"
- Strength- "**capacity** to withstand force or pressure"

The Golf Swing



GOLF Anatomy

- Excellent Illustrations
 - Golf swing & exercises
- Authors
 - Craig Davis & Vince DiSaia
- Great Paperback for the Clinic!



Identify Golf Equipment Concerns

- Clubs and Grips
- Tees
- Shoes, Gloves, etc.
- Practice Equipment Concerns



QUESTIONNAIRE

Name: _____

Address: _____

City: _____ State: _____ Zip: _____

Phone: _____

Age: _____ Sex: _____

Height: _____ Weight: _____

Years playing golf: _____

Level of play: _____

Number of golf clubs: _____

Number of golf bags: _____

Number of golf shoes: _____

Number of golf gloves: _____

Number of golf tees: _____

Number of golf balls: _____

Number of golf clubs: _____

Number of golf bags: _____

Number of golf shoes: _____

Number of golf gloves: _____

Number of golf tees: _____

Number of golf balls: _____

Types of Clubs and Grips



Tee or No Tee



Other Equipment Considerations

- Shoes
- Glove(s)
- Balls



Practice Equipment

- Avoid Mats – Concrete Base
- Indoors or outdoors



- Miss hit – \uparrow eccentric load & \uparrow mechanical vibration



Recommendations for Correction -Golf Pro-

- Collaboration
- Referral



Golf Swing & Equipment

- PGA Professional
- Local course golf pro



Biomechanics of the Golf Swing

Overview

- Setup (legs – back – arms – hands)
- Take away
- Back swing
- Impact
- Follow through



Biomechanics of the Golf Swing

General factors

- Balance & Momentum
- Coordination
- Flexibility
- Mobility
- Speed
- Strength
- Endurance



Setup

- Reach
- Posture
- Ball position
- Recommend routine for each shot to ensure correct approach



Take Away

- Weight shift begins
- Torso rotation
- Upper extremity position relatively intact



Back Swing

- Continued weight shift & torso rotation
- Forearm rotation
- Elbow flexion & wrist deviation



Impact

- Everything unwinds.....
 - Weight shifts forward
 - Torso rotates in opposite direction
 - Elbow extension, wrist deviation, forearm rotation
 - And impact is made with ball
 - Caution: Divots



Follow Through

- Full weight shift
- Full rotation of torso
- Finish forearm rotation
- Elbow flexion
- Wrist deviation



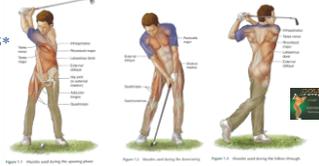
https://www.golfdigest.com/content/dam/imagelibrary/golfdigest/FullSite/2016/05/05/73056235325e7712825442_jordan-speth-better-golf-move-3-60.jpg

The Golf Swing Summary

- You likely aren't an expert in the golf swing, but OTs and PTs are experts in movement. Our viewpoint is very relevant and impactful!
- Understand the basics of the golf swing
- Tons of free videos and resources online
- Consider further formal training (ex. TPI)
- Consider developing relationships with local pros that can be very reciprocal
- After assessment, how to proceed?
 - Treatment approaches for functional stretching and strengthening to address deficits....

Functional Strengthening Program

- Key Muscles – Golf Swing [back swing, down swing & follow through]
 - Gluteus maximus & medius* * = muscles in all 3 movements
 - Erector spinae*
 - External & internal obliques*
 - Quadriceps* & hamstrings
 - Gastrocnemius*
 - Latissimus dorsi*
 - Rotator cuff*
 - Rhomboids* & lower trap
 - Transverse & rectus abdominis – pec major – hip ab/adductors



Patient Handout – Functional Strengthening

- Key Muscles – Golf Swing [back swing, down swing & follow through]
 - Gluteus maximus & medius* * = muscles involved in all three movements
 - Erector spinae*
 - External & internal obliques*
 - Quadriceps* & hamstrings
 - Gastrocnemius*
 - Latissimus dorsi*
 - Rotator cuff*
 - Rhomboids* & lower trap
 - Rectus & transverse abdominis – hip ab/adductors – pec major



Functional Strengthening Program

- Warm-up and Stretching Exercises 1st
- Prioritize Endurance Building over Gross Strengthening
- Prioritize Lower Body & Core Strengthening over the UE
 - Less physical demand on the UE when the LE/core are strong
- Manageable # of Exercises
 - Limited equipment; time-limited workout sessions
- Avoid Exercises with Compressive Forces to the Joints
 - Wrist & shoulder in particular (common sites for golf-related injuries) [Exercise examples: push ups, various Yoga positions]

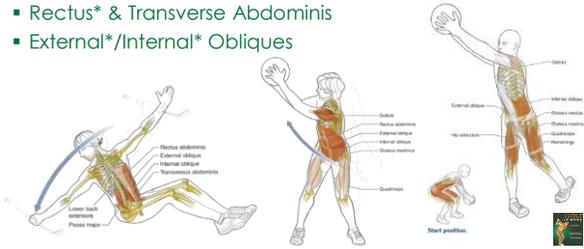
Home Program

- Prioritize Repetitions *Initially* – AROM
- Graded Resistance
 - Tubing
 - Hand-held weights
 - Cuff weights
- Equipment
 - Home
 - Fitness facility



Abdominal Exercises

- Rectus* & Transverse Abdominis
- External*/Internal* Obliques



Abdominal Exercises

- Rectus* & Transverse Abdominis
- External*/Internal* Obliques
 - Sitting or standing



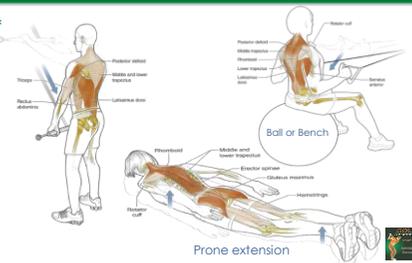
Chest Exercises

- Pectoralis Major
 - Progression: wall push-ups → countertop → floor (traditional)



Back Exercises

- Latissimus Dorsi*
- Erector Spinae*
- Rhomboids*
- Middle/Lower Trapezius



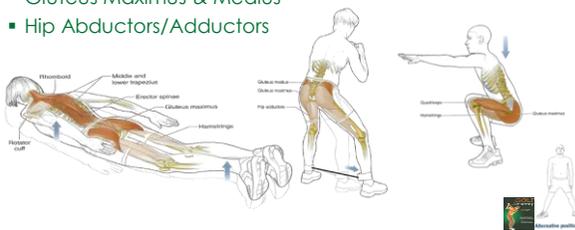
Back Exercises

- Latissimus Dorsi*
- Erector Spinae*
- Rhomboids*
- Middle/Lower Trapezius



Hip Exercises

- Gluteus Maximus & Medius*
- Hip Abductors/Adductors



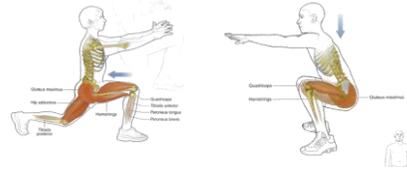
Hip Exercises

- Gluteus Maximus & Medius*
- Hip Adductors/Abductors



Hip Exercises

- Quadriceps & Hamstrings



Hip Exercises

- Quadriceps & Hamstrings



Leg Exercises

- Gastrocnemius* (calf muscles)
 - Actively raising heels – onto "tip toes"



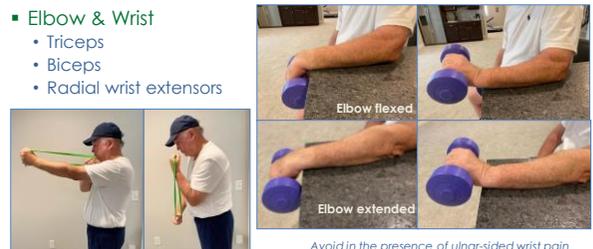
Upper Extremity Exercises

- Rotator Cuff*
 - Supraspinatus
 - Infraspinatus
 - Subscapularis
 - Teres minor



Upper Extremity Exercises

- Elbow & Wrist
 - Triceps
 - Biceps
 - Radial wrist extensors



Upper Extremity Exercises

Wrist & Hand

- Flexors/extensors (supinated)
 - Avoid radial & ulnar deviation
- Hand strengthening (supinated)

Rationale:

- Supination: ↓ the dynamic load or compression to the ulnar side of the wrist



Summary

- Prefer *Functional Endurance Building & Strengthening*
 - Improve the golf swing & to prevent common golf-related injuries
- Warm-Up & Stretching Exercises 1st
- Manageable # of Golf Specific Exercises
- Prioritize Lower Extremity & Core (for strength & injury prevention)
- Avoid Compressive Forces to the Shoulder & Wrist
- Home Program
 - Limited amount of equipment
 - Time-limited (20-30 minute sessions)
- Have Fun Treating Golfers!**

Key Flexibility Exercises

- Based on results from movement screen (FMS, FitGolf, online screens, MyTPI.com, nasm.org)
- Role of dynamic stretching



fitnesstraineracademy.org

Lower Quarter Flexibility



Torso stabilization with pelvic/hip rotation and extension

Hips, Knees, Ankles

Mytpi.com

Thoracic Spine Flexibility



Thoracic spine and shoulder flexibility



Thoracic spine and shoulder flexibility. Core and lower quarter stability

Upper Quarter Flexibility



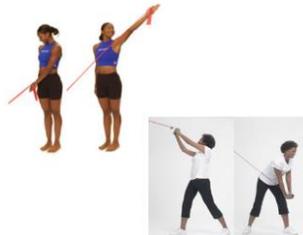
Lats and shoulder flexibility

Shoulder flexibility with dynamic scapular stabilization

Mytpi.com

Functional Flexibility

- Multiplanar
- Full range of motion
- Neuromuscular control



The golf swing requirements



UQ and thoracic mobility with LQ and core stabilization

Mytpt.com

Time to move!



References

- Davies, C. & Disaia, V. (2010). *Golf Anatomy*. Human Kinetics; 1st Edition.
- Parziale, J. R. (2002). Healthy swing: a golf rehabilitation model. *American journal of physical medicine & rehabilitation*, 81(7), 498-501.

Contact Information

- Sue Blackmore
 - SBlackmore@selectmedical.com
- Nancy Cannon
 - cannonnm@ihtsc.com
- Danielle Sparks
 - dsparks@ihtsc.com