

Description

Appendix 3 provides a detailed look at the **joint structure and ligaments** for all the joints of the body. It is organized to match the Muscle Groups 1 to 13 as presented in Chapters 4-6. Each card is directly linked to a muscle group “Joints & Actions” page in Chapters 4-6.

Each muscle group section begins with a description of the relevant joint(s).

Hip Joint (Part 2)
Hip Joint (Part 2) – Joint Details

G11
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Hip Joint (Part 2) – Joints

- **Hip Joint** (Coxal Joint)

Hip Bone
(Acetabulum)
◀▶
Femur
(Head of)

Joint Type: Ball & Socket

Action Pairs:

 - Flexion, Extension
 - Abduction, Adduction
 - Lateral Rotation, Medial Rotation
(also called external & internal rotation)
- **Knee Joint** (Tibiofemoral Joint)
 - Joint Type: Modified Hinge
 - Action Pairs:
 - Flexion, Extension
 - Medial and Lateral Rotation, (when the knee is flexed)
 - Affected only by Sartorius and TFL in this Muscle Group 11

↳ (for full description, see Muscle Group 12: Movement of the Knee)

Hip Joint

Femur

Tibiofemoral Joint (Knee Joint)

Tibia

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Appendix 3 TOC

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Joint Detail Cards for Muscle Group 11 – Hip Joint (Part 2)

Followed by one or more cards showing the ligaments for those joints.

Hip Joint (Part 2)
Hip Joint (Part 2) – Joint Details

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Hip Joint – Ligaments

Anterior

Lateral

Posterior

Hip bone

Hip joint*

Femur

* (also called Coxal joint or Acetabulofemoral joint)

Acetabulum (socket of joint)

Obturator foramen

Anterior View

p. 164

Ligament	Function
Iliofemoral Lig.	Limits extension and lateral rotation.
Ischiofemoral Lig.	Limits extension and medial rotation.
Pubofemoral Lig.	Limits extension and abduction.
Zona Orbicularis	Wraps around neck of femur, resists pulling head of femur away from socket.

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Appendix 3 TOC

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Joint Detail Cards for Muscle Group 11 – Hip Joint (Part 2)

This button links each Joint Detail card to the Joints & Actions page in Chapters 4-6 of the main text. (see page 2 below)

This button facilitates using Appendix 3 as a stand-alone atlas to study the joints of the body. (see page 3 below)

Joint Detail Cards are linked to the Joint & Actions pages in Chapters 4-6

Movement of the Hip Joint (Part 2)

Muscle Group 11

Superficial Long Muscles:	The Adductor Group:
Sartorius	Pectineus
Tensor fascia latae (TFL)	Adductor brevis
	Adductor longus
	Adductor magnus
	Gracilis

Joint (Joint details: p. 164)

This is the second of three groups of muscles that move the femur at the hip joint (coxal joint). This group contains the "longer" length muscles that mainly originate on the iliac crest and pubic bone, and insert on the posterior shaft of the femur and the proximal end of the tibia.

Hip Joint (Coxal Joint) (also called acetabulofemoral joint or coxofemoral joint)

Acetabulum of the Hip Bone ◀▶ Head of Femur

Ball and Socket Joint

Movements Available:

- Flexion
- Extension
- Abduction
- Adduction
- Lateral Rotation (External Rotation)
- Medial Rotation (Internal Rotation)

Other Joints (Joint details: p. 165)

Three of the muscles in this group cross both the hip and the knee joints, and therefore also affect the knee (although the *main* knee movers are presented in the next section – Group 12: Movement of the Knee).

Tibiofemoral Joint (TF)

Condyles of Femur ◀▶ Condyles of Tibia (tibial plateau)

Modified Hinge Joint

Movements Available:

- Flexion, Extension
- Medial and Lateral Rotation (when the knee is flexed)

(Note: The TF joint is covered more fully in the next section – Group 12: Movement of the Knee)

(MMM page 175)

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Muscle
Group 11

Click the
"back to"
button
to return to the
Joint & Actions
page.

Hip Joint (Part 2)

Hip Joint – Ligaments

Ligament	Function
Iliofemoral Lig.	Limits extension and lateral rotation.
Ischiofemoral Lig.	Limits extension and medial rotation.
Pubofemoral Lig.	Limits extension and abduction.
Zona Orbicularis	Wraps around neck of femur, resists pulling head of femur away from socket.

Joint Detail Cards for Muscle Group 11 – Hip Joint (Part 2)

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More
Ligaments

Appendix
3
TOC

Joint & Actions pages in Chapters 4-6 of the main text are linked to full-page **Joint Detail Cards** in Appendix 3. These cards display joints, ligaments and other details for the joint(s) moved by the muscles in the group.

Book will jump to the muscle group's **Joint Detail Cards** in Appendix 3.

Indicates there are more ligament cards following this one.

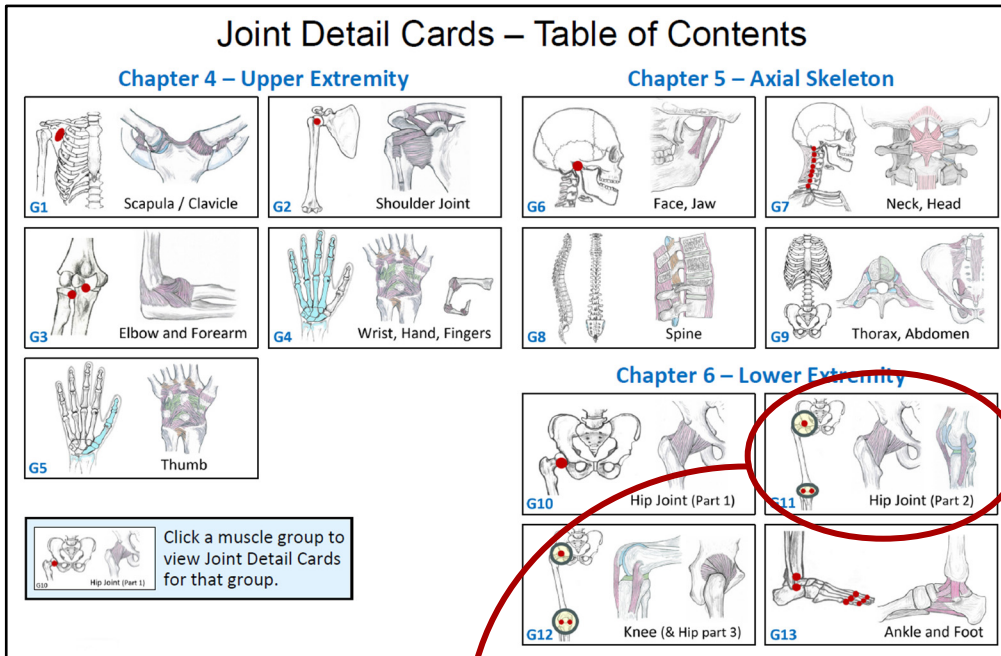
Using Appendix 3 as a Stand-alone Study Aid

For stand-alone mode, use the **Appendix 3 Table of Contents (TOC)** on page 488.

Click a muscle group joint picture.

Click the "TOC" button to return to the TOC page.

Book jumps to the joints for that muscle group.



Hip Joint (Part 2) – Joints

• Hip Joint (Coxal Joint)

Hip Bone (Acetabulum)

Joint Type: Ball-and-socket

Action Pairs:

- Flexion, Extension
- Abduction, Adduction
- Lateral Rotation, Medial Rotation (also called Internal/External Rotation)

• Knee Joint (Tibiofemoral Joint)

Joint Type: Hinge

Action Pairs:

- Flexion, Extension
- Medial rotation, Lateral rotation

Affected only: L (for full details)

Hip Joint (Part 2) – Ligaments

• Iliofemoral Ligament

• Pubofemoral Ligament

• Ligament of the Head of the Femur

• Transverse Ligament of the Acetabulum

• Ligament of the Hip Joint

Knee – Ligaments

Anterior Cruciate Ligament

Posterior Cruciate Ligament

Lateral Collateral Ligament

Medial Collateral Ligament

Patellar Ligament

Patellofemoral Ligament

Quadriceps tendon (cut)

Articular cartilage

Right Knee

Quadriceps tendon

Patella

Patellar Ligament

Tibia

Medial Condyle

Meniscus

Medial Collateral Ligament

Knee: Tibiofemoral Joint & Patellofemoral Joint

Ligament	Function
Medial (Tibial) Collateral Lig. (MCL)	Medial stabilizer, resists valgus forces. Taut when knee is in full extension.
Lateral (Fibular) Collateral Lig. (LCL)	Lateral stabilizer, resists varus forces. Taut when knee is in full extension.
Patellar Lig.	Connects patella to tibia, completing the pulley structure to extend the knee.

Knee: Tibiofemoral Joint & Patellofemoral Joint

Ligament	Function
Anterior Cruciate Lig. (ACL)	Prevents anterior displacement of tibia on femur.* Resists hyperextension and medial rotation. Most frequently injured knee ligament.
Posterior Cruciate Lig. (PCL)	Prevents posterior displacement of tibia on femur.* Resists extreme flexion of knee.

The cruciate ligaments keep the condyles of the femur aligned on the tibial plateau while the knee is flexing and extending.

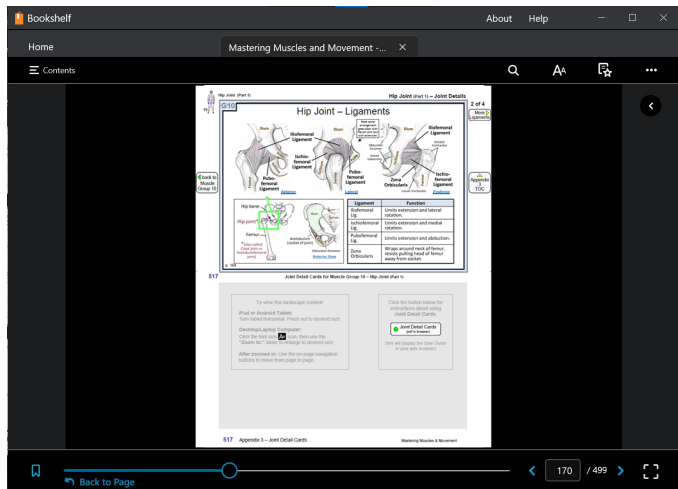
Appendix 3 TOC



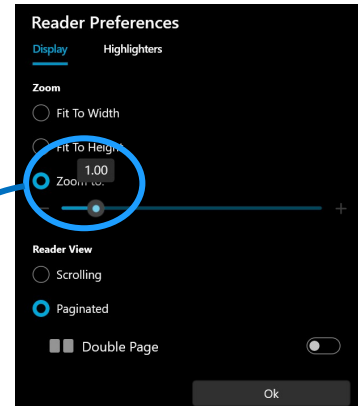
VitalSource Bookshelf – Reading Landscape-Oriented Pages

Landscape pages are displayed in the top half of portrait-shaped pages.

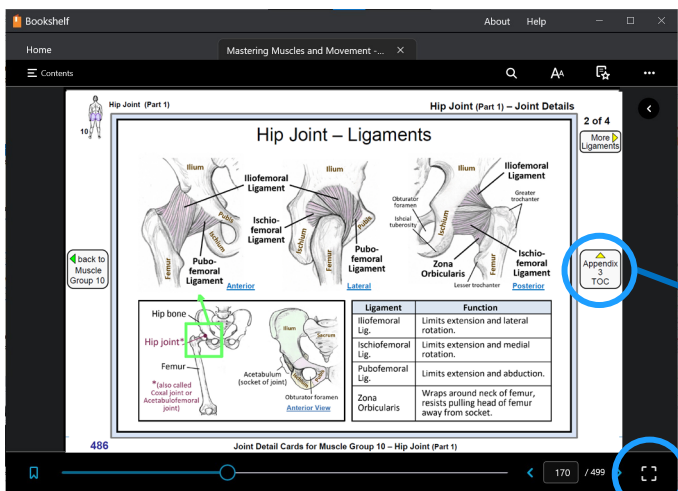
As an example, here is a Joint Detail Card viewed in the Bookshelf Windows app:



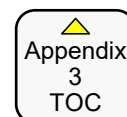
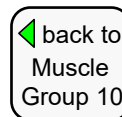
Click **AA** button for Reader Preferences.



Use “**Zoom to:**” slider to enlarge the card.



After zoomed in: Use the navigation buttons to move between landscape pages.



(see pages 2-3 above for details)

For the largest view, click the **[]** button to enter full-screen mode.

Suggestion: Try reading the entire book zoomed in as described above. On portrait pages, it's very easy to do a short scroll between the top and bottom of the page.

Keyboard shortcuts when in full-screen mode (Windows app):

Scroll up and down on the current page:

Use up & down arrow keys, or use mouse wheel or trackpad.

Go to next page or previous page:

Ctrl-PageDown, Ctrl-PageUp