

ANATOMY FOR ARM BALANCES AND INVERSIONS
LONG



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HOW TO USE THIS BOOK

Practicing yoga is like passing through a series of doors, with each door revealing new possibilities in the poses. The key to unlocking the first door is understanding the joint positions. This understanding can be used to identify the muscles that create the form of the pose and those that stretch. The key to positioning the joints is engaging the correct muscles. This begins with the prime movers. Engage the prime movers and the bones will align. The key to deepening the asanas is using your understanding of physiology to lengthen the muscles that stretch in the pose. Focus on these keys and the postures will automatically fall into place and manifest the beneficial effects of yoga. These include improved flexibility, heightened awareness, a sense of well-being, and deep relaxation.

The Mat Companion series is a set of modular books. Each book focuses on a specific pose category and contains the following:

- **The Key Concepts:** a description of biomechanical and physiological principles with applications for specific poses.
- **The Bandha Yoga Codex:** a simple five-step process that can be used to improve your flexibility, strength, and precision in the asanas.
- **The Pose Section:** a detailed description of the individual postures.
- **Movement Index:** explanations of body movement and tables listing the muscles associated with each movement.
- **Anatomy Index:** a visual listing of bones, ligaments, and muscles (showing the origins, insertions, and actions of each).
- **Glossary of Terms**
- **Sanskrit Pronunciation and Pose Index**
- **English Pose Index**

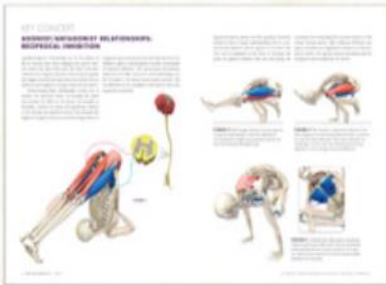


FIGURE 1 The Key Concepts show you how to apply biomechanics and physiology to your poses. Read this section first and return here often to refresh your knowledge.

FIGURE 2 The opening page for each pose illustrates the basic joint actions and positions of the body for that particular asana. Sanskrit and English names are provided for each posture. Use this page to assist you in learning the basic form of the pose and other concise details.



FIGURE 3 Use the preparatory section as a guide for how to enter the pose. If you are new to yoga or feel a bit stiff, use one of these modifications for your practice. In general, the preparatory poses affect the same muscle groups as the final asana. You will benefit from the pose no matter which variation you practice.

FIGURE 4 Each pose comes with a series of steps for engaging the muscles that position the joints, concluding with a summary of the muscles that stretch. Muscles that contract are colored different shades of blue (with the prime movers deep blue), and those that stretch are red. Use the pose section to master the anatomy of any given asana.



KEY CONCEPT

AGONIST/ANTAGONIST RELATIONSHIPS: RECIPROCAL INHIBITION

Agonist/antagonist relationships are the foundation of all the concepts that follow. Engaging the agonist muscles creates the form of the pose. The form of the pose stretches the antagonist muscles. Contracting the agonist also triggers an inhibitory signal from the central nervous system to the antagonist, helping it relax into the stretch.

Understanding these relationships enables you to balance the muscular forces surrounding the joints and optimize the effects of the asanas. For example, in Halasana, contract the psoas and quadriceps muscles to flex the hips and extend the knees. This increases the length of the gluteus maximus and hamstrings. When we

engage the psoas and quadriceps, the brain also sends an inhibitory signal to the antagonist muscles—an example of reciprocal inhibition. This unconscious phenomenon minimizes the reflex contraction of the hamstrings (see *Mat Companion 3* for details on the muscle spindle). Feel the difference in the sensation of this stretch when you engage the quadriceps.

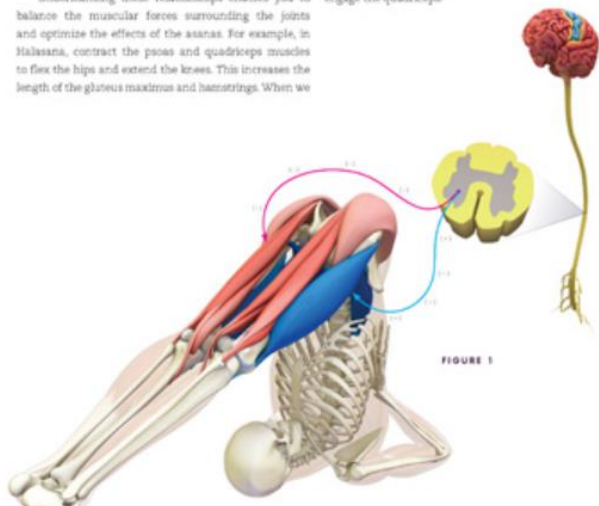


FIGURE 1

Agonist/antagonist groups are like opposing characters within the story of a pose. Each individual joint is a subplot for this dynamic, with an agonist on one side of the joint and its antagonist on the other. In Halasana, the psoas and gluteus maximus form one such group, the

quadriceps and hamstrings form another, and so on. The central nervous system, with reciprocal inhibition and spinal cord reflex arcs, negotiates a resolution to this allegorical conflict. The agonist muscles strengthen and the antagonist muscles relax into the stretch.



FIGURE 2 These images illustrate two key agonist/antagonist relationships in Eka Pada Bakasana II. Contracting the straight-leg quadriceps extends the knee and stretches the hamstrings.



FIGURE 3 The situation is reversed for the bent knee. Here, engaging the hamstrings flexes the knee to produce the optimal form of the pose. This action stretches the quadriceps. In both cases, the stretching muscles are signalled to relax through reciprocal inhibition.



FIGURE 4 A similar story takes place in Bakasana. Contracting the rectus abdominis adducts the lumbar.