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## 42. Evaluation and treatment of the most common patterns of sacroiliac joint dysfunction

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### INTRODUCTION

The sacroiliac joint (SIJ) has been implicated as a source of low back pain by many clinicians and researchers, including Lee (1989, 1992) and Vleeming and Mooney (1992). There is an interdisciplinary interest in the role of the SIJ and low back pain and its functional relation to the musculoskeletal system (Vleeming et al 1992, 1995). The SIJ may cause pain due to disease, inflammation, or movement dysfunction. Movement dysfunction may exist as hypermobility or hypomobility. According to Porterfield and DeRosa (1991), the normal SIJ functions as a triplane shock absorber and transfers upper body weight into the pelvis and lower extremities, and participates in the absorption of the force of heel strike. If the SIJ is hypomobile, it cannot effectively absorb stress from activities of daily living, and other structures may be overstressed, thus contributing to musculoskeletal pain and dysfunction. Examples are low back pain and hip pain. Ligamentous and capsular pain may be present if one or more of the pelvic bones has moved beyond the normal range of motion and became stuck, thus perpetuating soft tissue pain. Treatment can often produce dramatic results in a short period of time by passively restoring normal motion. In this example, the hypomobility is transient and is appropriately referred to as apparent hypomobility. True hypomobility or status hypomobility is much more resistant to treatment and at times non-responsive. Often, degenerative changes or disease has occurred over time, and thus normal mobility cannot be restored. Mild forms of true hypermobility can be managed readily, whereas moderate and severe forms are quite challenging. Other authors have

addressed true hypermobility and instability within this book.

Apparent hypermobility and apparent hypomobility often coexist. Mobility testing of the pelvis reveals one direction of decreased mobility, whereas testing in the opposite direction reveals increased mobility. This is quite common, and treatment directed at restoring normal movement in the direction of hypomobility usually also restores normal movement in the direction of the apparent hypermobility. This chapter addresses common patterns of apparent hypomobility and apparent hypermobility.

It is an established fact that the SIJ has a small amount of functional motion, as does the symphysis pubis (Vleeming et al 1992). There may be a greater than normal amount of motion due to trauma, repetitive overload, inflammation, hormonal laxity, or heredity. Bernard (1992) has demonstrated through fluoroscopy that the SIJ does move with manually applied loads such as those utilized in evaluation and treatment. What has not been established is whether or not manual clinical tests and treatments specifically affect *only* the SIJ. It may be that mobility is evaluated and treated manually as part of the integrated system of the spine, pelvis, and hip. The SIJ is part of this system, and it does not function in an isolated fashion. Mobility tests that attempt to isolate actual joint play may yield useful information about the system; however, we cannot say with certainty that mobility tests exclusively isolate *only* the SIJ.

For several reasons, specific joint mobility tests (also called spring tests) may yield information about perceived movement that may be greater than the actual movement that occurs. The bony landmarks used are at a distance to the joint and

may thus amplify perceived motion. The spring test may be applied in one plane and yet may produce triplane motion in the joint, and the kinesthetic information may therefore seem amplified. A spring test may induce simultaneous motion at both SIJs and the symphysis pubis. A small degree of cartilage and bone deformation may also occur. Last, in spite of our best efforts to isolate the joint, the test might actually incorporate the lumbopelvic-hip region. These reasons do not detract from the clinical utility of the spring tests, as they evaluate an important and often overlooked aspect of joint function, which is joint play. This will be addressed later.

*\*Permission was not granted to post the entire chapter, however the book is very inexpensive in the used book market and inter-library loan.  
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# Movement, stability and low back pain

## The essential role of the pelvis

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EDINBURGH LONDON NEW YORK OXFORD PHILADELPHIA ST LOUIS SYDNEY 1997

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First published 1997  
Reprinted 1999

Transferred to digital printing 2003

ISBN 0 443 05574 2

**British Library Cataloguing in Publication Data**

A catalogue record for this book is available from the British Library.

**Library of Congress Cataloging in Publication Data**

A catalog record for this book is available from the Library of Congress.

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