Defining the clinical syndrome of lumbar spinal stenosis: Results of an International Delphi Study

International Taskforce on Diagnosis and Management of Lumbar Spinal Stenosis

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Taskforce/ISSLS Focus Group

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No Disclosures
Background

- Lumbar spinal stenosis (LSS) has evolved from an anatomical concept to a poorly defined clinical syndrome.
- Criteria for defining a syndrome should be informed by the experience of expert clinicians.
Objective

Reach a consensus among international experts on *which history factors* are most important in diagnosis of clinical lumbar spinal stenosis (LSS)
Phase 1
Delphi Items

Phase 2: Round 1
Survey ISSLS Members

Phase 2: Round 2
Taskforce Item Consensus

Phase 2: Round 3
International Survey

Phase 3
Taskforce Final Consensus
Phase 1: Delphi Items

• Multidisciplinary team of 12 experts in LSS complied a list of 14 clinical questions (Sandella et al. 2012)

• Questions were those considered to be important in diagnosis of LSS

• A consensus of the 18 members of the International Taskforce on the Diagnosis and Management of LSS confirmed these 14 items (ISSLS Scottsdale, 2013)

Phase 2: Round 1
Online Recursive Survey

An innovative online survey technique was developed to determine:

1. Which factors are most important to clinicians in the diagnosis of LSS?
2. How certain are clinicians in their decisions after asking the questions?
3. How many questions are required in order to achieve reasonable diagnostic certainty?
Introductory question:

“A patient, over 65 years old, comes into your office with symptoms they attribute to the low back or leg. You are interested in finding out if they have the clinical syndrome of lumbar spinal stenosis. What is the first question you would ask?”

Responders select one of 14 clinical history questions
Responder chooses level of certainty that patient has LSS (0-100%) and next question. Website gives affirmative answer, then responder chooses the next question.
A patient, over 65 years old, comes into your office with symptoms they attribute to the low back or leg.

You are interested in finding out if they have the clinical syndrome of lumbar spinal stenosis.

What is the first question you would ask to determine whether the patient has the clinical syndrome of lumbar spinal stenosis?

- Does the patient have thyroid disease?
- Does the patient walk WITHOUT a limp?
- Does the patient have leg or buttock pain while walking?
- Does the patient feel relief when using a shopping cart or bicycle?
- Does the patient have lower extremity weakness?
- Does the patient have diabetes mellitus?
- Does the patient have low back pain?
- Are the pulses in the foot present and symmetric?
- Does the patient flex forward to relieve symptoms?
- Does the patient have motor or sensory disturbance while walking?
- Other (specify) ____________________________
- There are no additional questions, listed or unlisted, that would increase my certainty

Next >>
The patient answers "yes" to the question Does the patient flex forward to relieve symptoms?. Based on this information, how certain are you that the patient has spinal stenosis?

Certainty: 51
Survey Outcomes

- Logical order in which clinicians consider the questions
- Level of certainty ascertained from the questions
- Number of questions required to obtain reasonable certainty
Phase 2: Round 1

- Online survey was distributed to all ISSLS members in 2013
- 68 individual responders
- 16 different countries
- Good representation by specialty
Results: Round 1

The most commonly selected factors were:

- Leg pain while walking
- Flex forward while walking to relieve symptoms
- Sit down or bend forward to relieve pain
- Normal foot pulses
- Relief with rest
- Lower extremity weakness
- Significant ($P<.05$) change in certainty ceased after 6 questions at 81% certainty
Phase 2: Round 2

• In-person meeting of 9 members of the Taskforce was conducted as a Focus Group Meeting at ISSLS Seoul, 2014

• In Round 2 a consensus was reached on a final list of 10 survey items
Final 10 Items

• Does the patient have leg or buttock pain while walking?
• Does the patient have motor or sensory disturbance while walking?
• Does the patient feel relief when using a shopping cart or bicycle?
• Does the patient have low back pain?
• Does the patient have lower extremity weakness?
• Does the patient flex forward to relieve symptoms?
• Are the pulses in the foot present and symmetric?
• Does the patient walk WITHOUT a limp?
• Does the patient have thyroid disease?
• Does the patient have diabetes mellitus?
Round 3: Survey Distribution

The final version was distributed to a wide group of experts, with the goal of obtaining 200 responses:

• ISSLS
• International Spine Intervention Society
• British Association of Spine Surgeons
• British Scoliosis Society
• Canadian Spine Society
• Asia Pacific Orthopaedic Association (APOA)
• Hong Kong Orthopaedic Association (HKOA)
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<thead>
<tr>
<th>Number of participants</th>
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<td><strong>Years in practice</strong></td>
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Top 6 Questions (in order)

• Does the patient have leg or buttock pain while walking?
• Does the patient flex forward to relieve symptoms?
• Does the patient feel relief when using a shopping cart or bicycle?
• Does the patient have motor or sensory disturbance while walking?
• Are the pulses in the foot present and symmetric?
• Does the patient have lower extremity weakness?
** Significant (p<0.05) change in certainty ceased after 6 questions at 80.0% certainty
Phase 3: Final Consensus

• 11 members of the Taskforce met for the final consensus (ISSLS Focus Group, June 8th, 2015)
• Final set of 6 items was confirmed
• Low back pain item was included
Discussion and Conclusions

- Within 6 questions clinicians become 80% certain about the diagnosis of clinical LSS.
- This question set provides a pragmatic criterion for defining clinical LSS.
- Standardization of criteria for research studies and care providers.
Discussion and Conclusions

- Combine flexion items?
- Foot pulses really physical exam item
- Does not account for physical exam or other diagnostic tests
- More study need to build full picture
Future directions

• Expanding to physical exam and other diagnostic studies (e.g. imaging, ABI, EMG)

• Delphi study to determine:
Which other diagnostic factors increase certainty of diagnosis?
- Logical order
- Change in certainty associated with additional factors
Thank you!

International Taskforce on Diagnosis and Management of Lumbar Spinal Stenosis

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