

Promoting Lifelong Mobility : Japan's Orthopedic Campaign to Combat Locomotive Syndrome



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Background/Introduction

As the **world's most aged society**, Japan faces urgent challenges in maintaining **mobility and independence** across the life course. In 2007, the **Japanese Orthopaedic Association (JOA)** introduced the concept of **Locomotive Syndrome (LS)**: mobility decline due to musculoskeletal impairment. This framework highlights the importance of musculoskeletal health from childhood through older age, noting that functional deterioration begins in **midlife**. Locomotive Syndrome is of great public health importance, as **musculoskeletal disorders account for nearly one-quarter of all long-term care needs in Japan**. Consequently, **increasing awareness of Locomotive Syndrome became a national target** in 2013 under **Health Japan 21 (Second Term)**.

With current public awareness at approximately 42% (2025), efforts are expanding to younger generations. The polarization of **children's physical activity** in Japan – leading to overuse injuries and insufficient activity accounting for reduced flexibility - underscores the critical need for **life-course musculoskeletal health promotion** strategy.

Objectives

- **Early detection** of mobility decline starting midlife.
- **Increase public awareness** of Locomotive Syndrome and its preventability.
- **Strengthen musculoskeletal health** across all ages, from childhood to older adulthood.
- **Reduce future frailty burden**, as locomotive dysfunction precedes the physical frailty.
- **Extend healthy life expectancy** through community-based mobility enhancement.

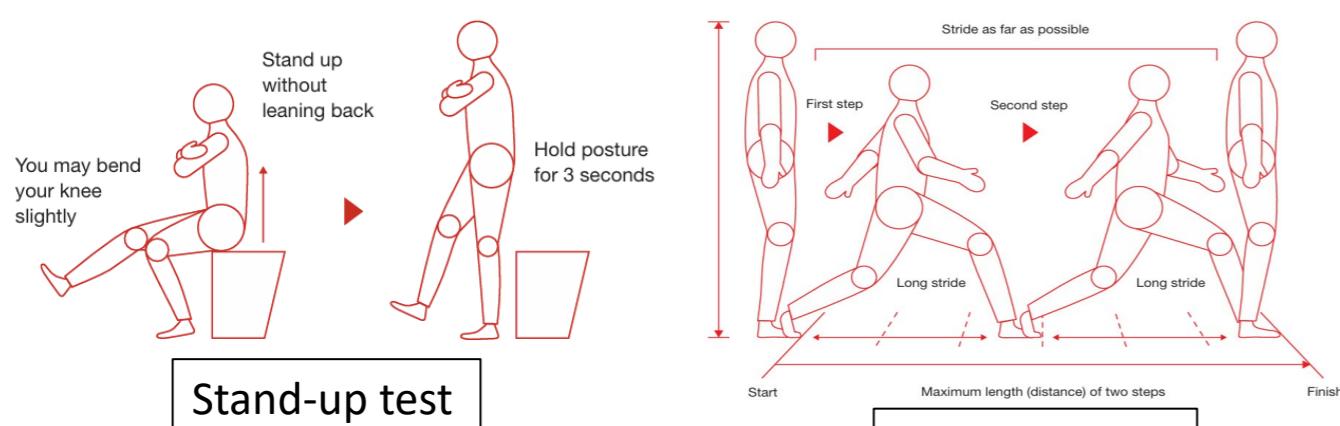
Methodology

JOA collaborates with: **Local governments/ Healthcare professionals/ Public media and digital platforms**

To promote, JOA devised:

● Functional assessments

Locomotive Syndrome Risk Test (2015): composed of stand-up test, two-step test, GLFS25(self-questionnaire)

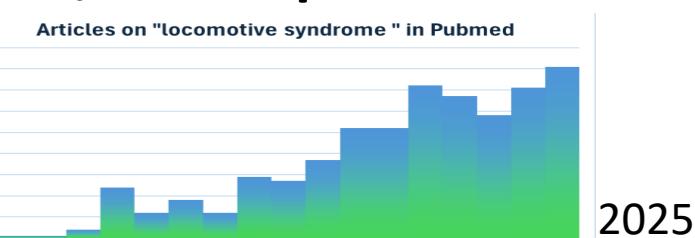


● Targeted exercise programs

Including the nationally disseminated "**Locomotion Training**" (balance, muscle strength, flexibility).

Results/Major Findings

- **Public awareness of Locomotive Syndrome increased** from 17% (2012) to 42% (2025).
- **520+ PubMed research papers**, with rapid annual growth since 2020.



- **National fall-prevention guidelines for older workers** now include Locomotive Syndrome/Frailty prevention.
- **Integration into 2022 Medical Society Declaration**, endorsed by Japan's Medical Association + 80 academic societies, recognizing Locomotive Syndrome / Frailty prevention as a national medical priority.

Conclusion/Lessons Learned

- **Life-course approach is essential**: mobility decline begins before old age.
- **Children and working-age adults require targeted strategies**: given polarization in physical activity and lifestyle changes.
- **Musculoskeletal Foundation**: key to healthy aging, frailty prevention, and reducing long-term care needs.
- **Scalable Global Model**: Japan's preventive approach to Locomotive Syndrome offers a scalable global model for aging societies.
- **Goal**: Foster supportive environments for active, independent and healthy lives throughout life.

Policy Recommendation

- **Digital Platforms**: Advance monitoring and promotion of mobility via digital/community platforms
- **Programs at Work/School**: Expand exercise programs targeting early decline
- **Data-Driven Refinement**: Apply research evidence to optimize high-impact interventions.
- **Global Share**: Strengthen collaboration to export Japan's model.
- **Mobility-Friendly Design**: Promote environment design for active living (parks, safe zones).



The Locomotive Challenge!

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