



## iCAHE JC Critical Appraisal Summary

### Journal Club Details

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Journal Club location	Modbury Hospital
JC Facilitator	J'aime Newland & Alyce Berry
JC Discipline	Occupational Therapy

### Question

N/A

### Review Question/PICO/PACO

**P:** Clients with high tone in their upper limbs post stroke

**I:** Botillium Toxn + therapy.

**C:** Normal therapy with no botox

**O:** functional upper limb usage/ ROM

### Article/Paper

Hara T, Abo M, Hara H, Kobayashi K, Shimamoto Y, Samizo Y, Sasaki N, Yamada N, Niimi M. Effects of botulinum toxin A therapy and multidisciplinary rehabilitation on upper and lower limb spasticity in post-stroke patients. International Journal of Neuroscience. 2017 Jun 3;127(6):469-78.

*Please note: due to copyright regulations CAHE is unable to supply a copy of the critically appraised paper/article. If you are an employee of the South Australian government you can obtain a copy of articles from the [DOHSA librarian](#).*

**Article Methodology:** Cohort Study

**CONTACTS**

www.unisa.edu.au/cahe  
 iCAHE@unisa.edu.au  
 Telephone: +61 8 830 22099  
 Fax: +61 8 830 22853

University of South Australia  
 GPO Box 2471  
 Adelaide SA 5001  
 Australia

CRICOS Provider Number  
 00121B



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Ques No.	Yes	Can't Tell	No	Comments
1	✓			<p><b>Did the study address a clearly focused issue?</b></p> <p>The purpose of the current study was to investigate whether a combined BoNTA and MD program contributes to the functional recovery of the upper and lower limbs in stroke patients with spasticity</p>
2	✓			<p><b>Did the authors use an appropriate method to answer their question?</b></p> <p>As the aim of the current study is to determine whether there was an effect on function (rather than effectiveness of BoNTA &amp; MD on function) a cohort study is appropriate. Additionally, records were viewed retrospectively, which suits the cohort study design. However, a control or comparison group would have reduced many biases, and should have been considered.</p> <p><b>Is it worth continuing?</b>                      YES</p>
3	✓			<p><b>Was the cohort recruited in an acceptable way?</b></p> <p>Patients who received BoNT-A injections and inpatient rehabilitation at Kikyogahara Hospital from April 2012 to April 2015 and who met the criteria below were included in this study.</p>
4	✓			<p><b>Was the exposure accurately measured to minimize bias?</b></p> <p>Inclusion criteria were the following: (1) patients with hemiplegia following a stroke that involved upper and lower limb spasticity (with a Modified Ashworth Scale score equal to or greater than 1; (2) &gt;6 months since the onset of stroke; (3) no prior BoNTA injections; (4) no contraindications for BoNT-A injections; (5) the patient desired additional improvement of hemiplegia; and (6) re-evaluation at 3 months following discharge was available. Exclusion criteria were (1) only the upper or lower limb being appropriate for BoNT-A injections, (2) taking anti-spasticity medications, and (3) a history of BoNT-A injections</p>
5	✓			<p><b>Was the outcome accurately measured to minimize bias?</b></p> <ul style="list-style-type: none"> <li>Modified Ashworth Scale (MAS), assessed the shoulder, elbow, wrist, finger, knee and ankles.</li> <li>Fugl-Meyer Assessment (FMA), used 33 items (maximum score of 66) pertaining to upper limb function, including shoulder, elbow, forearm, wrist, and hand</li> <li>Comfortable and maximum gait velocities of the 10 MeterWalk Test (10MWT) were also measured</li> <li>Functional Reach Test (FRT), conducted this assessment because there may be changes in balance abilities due to BoNT-A injections to both the upper and lower limbs.</li> <li>The Timed Up and Go (TUG) test, patients were required to stand up from a chair with armrests, walk 3 meters, turn around, return to the chair, and sit down as quickly as possible</li> </ul>

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6			✓	<p><b>Have the authors identified all important confounding factors?</b>                  No  <b>Have they taken account of the confounding factors in the design and/or analysis?</b></p> <p>Confounding factors were not considered or acknowledged. Authors did acknowledge that a control group would minimize bias.</p>
7	✓			<p><b>Was the follow up of subjects complete enough?</b></p> <p>Follow-up was conducted at 3-months post-treatment. Considering the life of Botox injections, this is an appropriate timeline.</p>
8				<p><b>What are the results of this study?</b></p> <p>At the time of discharge, all of the evaluated items showed a statistically significant improvement (<math>p &lt; 0.05</math>). Only the Functional Reach Test (FRT) showed a statistically significant improvement at 3 months (<math>p &lt; 0.05</math>). In subgroup analyses, the slowest walking speed group showed a significantly greater change ratio of the 10 Meter Walk Test relative to the other groups, from the time of admission to discharge. This group showed a greater FRT change ratio than the other groups from the time of admission to the 3-month follow-up. Inpatient combined therapy of simultaneous injections of BoNT-A to the upper and lower limbs and MD may improve motor function.</p>
9				<p><b>How precise are the results?</b></p> <p>P values are provided but confidence intervals are not provided or discussed.</p>
10				<p><b>Do you believe the results?</b></p>
11		Journal Club to discuss		<p><b>Can the results be applied to the local population?</b>  <b>CONTEXT ASSESSMENT (please refer to attached document)</b></p> <ul style="list-style-type: none"> <li>- Infrastructure</li> <li>- Available workforce (? Need for substitute workforce?)</li> <li>- Patient characteristics</li> <li>- Training and upskilling, accreditation, recognition</li> <li>- Ready access to information sources</li> <li>- Legislative, financial &amp; systems support</li> <li>- Health service system, referral processes and decision-makers</li> <li>- Communication</li> <li>- Best ways of presenting information to different end-users</li> <li>- Availability of relevant equipment</li> <li>- Cultural acceptability of recommendations</li> <li>- Others</li> </ul>
12				<p><b>Were all important outcomes considered?</b></p>
13				<p><b>Are the benefits worth the harms and costs?</b></p>

14	What do the study findings mean to practice (i.e. clinical practice, systems or processes)?
15	<p>What are your next steps?</p> <p><b>ADOPT, CONTEXTUALISE, ADAPT</b></p> <p>And then (e.g. evaluate clinical practice against evidence-based recommendations; organise the next four journal club meetings around this topic to build the evidence base; organize training for staff, etc.)</p>
16	What is required to implement these next steps?

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