

Asian Try-Zero-G 2023
Category B (Exercises)

AIR CHAIR EXERCISE

1. Air Chair Exercise A

(Exercise that train the biceps and trapezius muscles)



(Image by JAXA)

On Earth

The microgravity environment

1. Air Chair Exercise A

1-1 Prediction

- ✓ Effective for training the biceps and trapezius muscles.
- ✓ His body may **lean forward**.

1-2 Experiment results

- ✓ His posture was **stable**.

Supported
his body



(Image by JAXA)

It's a good exercise to use the strength of his arms against the rubber force.

2. Air Chair Exercise B

(Exercise that train the biceps and trapezius muscles)



On Earth



(Image by JAXA)

The microgravity environment

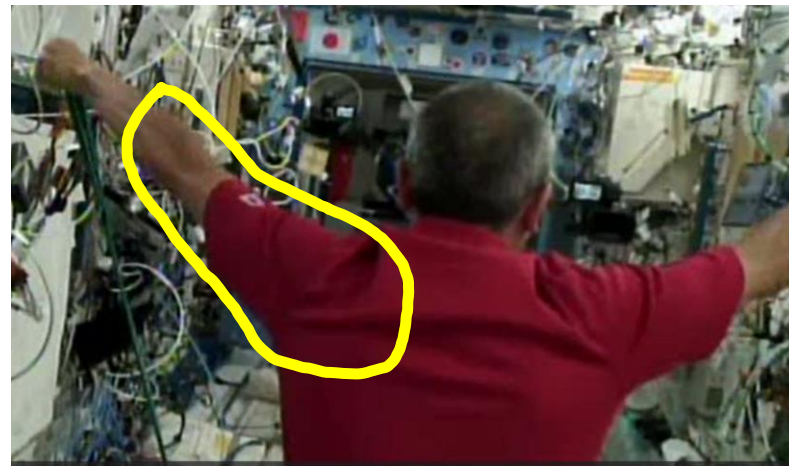
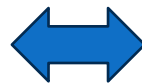
2. Air Chair Exercise B

2-1 Prediction

- ✓ Effective for training **the biceps and trapezius muscles.**

2-2 Experiment results

- ✓ Specifically targets **the outer side triceps and deltoid muscles.**



(Image by JAXA)

3. Air Chair Exercise C

(Exercise that train the hip joints)



(Image by JAXA)

On Earth

The microgravity environment

3. Air Chair Exercise C

3-1 Prediction

- ✓ Performed with the body **facing forward**.
- ✓ Effective for training **the hip joints**.

3-2 Experiment results

- ✓ His body **rotated**.
- ✓ Used **the forces of the top of his feet** and **gluteus maximus muscles**.



He may have felt as if his feet were pressing on the ground.

(Image by JAXA)

3. Air Chair Exercise C

3-3 Improvement

- ✓ Performed with the body **facing forward**.



better exercise the hip joints.

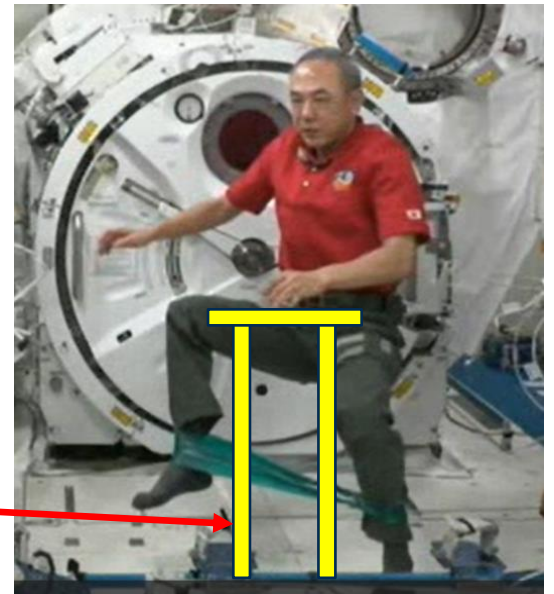
- ✓ Install something like the handle of a trolley bag.

3-4 Effect

- ✓ Use arm strength.
- ✓ Prevents body rotation.

He can open his hip joints more.

Can be stored away when not in use



(Image by JAXA)

4. Summary

○ : Consistent with expectations
△ : Difference from expectations

4-1 Air Chair Exercise A

- ✓ Good exercise that can be done with just one exercise band. ○
- ✓ The body did not lean forward. △



4-2 Air Chair Exercise B

- ✓ Good exercise that can be done with just one exercise band. ○
- ✓ Specifically targets the outer side triceps and deltoid muscles. △



4-3 Air Chair Exercise C

- ✓ The body rotated. △
- ✓ Used the forces of the top of his feet and gluteus maximus muscles △



Question

Do you get muscle pain in a microgravity environment?

(Image by JAXA)