



## JUDO FEDERATION OF AUSTRALIA

### SAMPLE JUNIOR INTRODUCTORY STRENGTH & CONDITIONING PROGRAM

#### JFA Sports Science Committee

#### Introduction

Whilst there is no debate regarding the importance of physical capacity to high level Judo performance, there are literally countless appropriate programs that can achieve this outcome. Ideally, training programs are devised on an individual needs basis and take into accounts aspects such as training history, phase of annual plan, strengths & weaknesses, and injury history. Due to these very individual factors, it is not possible to design a “one size fits all” program. The following programs should be viewed as a **general guide only** (e.g. many exercise substitutions are possible) to be used as a starting point for an individualised approach. It is deliberately simple and contains very little in the way of things like prehabilitation exercises that may be specific to individual needs. There is no such thing as the perfect global program. It is also important to remember that exercises/drills should not be viewed as simply “good” or “bad” but considered in context with the aims and objectives of the program. For example, circuit training is fine for developing strength endurance but not the best choice for developing maximal strength. The programs below (or parts of) may or not be suitable for your needs.

Despite the need for an individualised program, there are some common aspects that are important to Judo performance (e.g. strength, power, aerobic & anaerobic capacity) and the following programs may be an appropriate foundation for more specific training. The attached programs are deliberately simple and straightforward, however it should not be assumed that more complex programs are more effective. In fact, “off mat” conditioning should ideally be no more complicated than absolutely necessary with the aim of providing a foundation for specific on mat training. **Be aware that you may require and benefit from specific training to address your fundamental movement skills (including mobility). These sample programs assume you have no movement**

**limitations and are ready for this stage of training. Ideally you should undergo some kind of movement screen to determine your movement limitations in addition to some assessment of your strength & power qualities.** You should enlist the support of an appropriately qualified person (minimum Australian Strength & Conditioning Association Level2 Coach) to supervise your training.

## **SAMPLE STRENGTH TRAINING PROGRAMS**

### **GENERAL RECOMMENDATIONS**

- Ensure you have supervision from a suitably qualified person.
- Maintain correct technique at all times. Do not perform an activity if you are unsure of the correct technique.
- Utilise a spotter at all times.
- In order to be effective there needs to be a gradual progression in volume and intensity of training. Six weeks manipulation is provided.
- Only increase loads when you can do so safely and maintain movement quality.
- Do not perform an exercise if it causes pain.
- Commence each session with a warm up and finish with some type of recovery activity (e.g. light stretching, compression garments, hydrotherapies, nutrition & hydration).
- **The links to YouTube videos for each exercise provide an example of appropriate technique (ignore much of the annoying audio). Keep in mind that there are many possible variations of each exercise and the examples shown here may not meet your specific needs. As a result, a specific aspect of how the exercise is performed may need to be modified from what is shown in the video so that it suits you.**

### **PROGRAM 1**

This program is designed for you to perform if you have no strength training background and can be viewed as preparation for Program 2. If you have specific limitations, you should consult a qualified S&C coach as the exercises contained here are general in nature only and may not apply specifically you to you.

### **PROGRAM 2**

This program may be suitable for someone who has little or no strength training background, particularly those who are unfamiliar with basic movement patterns required in a training program where an external resistance is utilized.

### **PROGRAM 3**

This program may also be appropriate for someone who has undergone 6 months of structured training. Keep in mind that it does not take into account your individual circumstances. Importantly it only covers a small number of weeks and therefore requires a follow up program.

## GENERAL TRAINING GUIDELINES

- Complete 1 – 2 warm up sets of each exercise with a relatively light load prior to the training sets prescribed. More warm up sets may be required as training loads increase
- Select a weight that allows you to just complete the specified repetition range
- Have the rest prescribed between sets

### Day 1 & 3

**Warm up & Injury prevention:** 5 min cycle/run/row followed by dynamic stretches/range of motion activities (e.g. body weight squats, push-ups, walking lunges, spiderman walks, trunk rotations, various glut activation movements (e.g. hip thrusts) etc). Activities such as foam rolling may also be used as part of the warm up. It is beyond the scope of these examples to prescribe these activities in detail.

1. Theraband rotator cuff:
  - a. 2 x 15 shoulder internal & external rotation by side & above head.
2. Ankle/knee proprioception:
  - a. 2 x 15 sec single leg balance with eyes closed.
  - b. 2 x 6 lateral hop & land with eyes closed

### Day 2

**Warm up & Injury prevention:** 5 min cycle/run/row followed by dynamic stretches/range of motion activities (e.g. body weight squats, push-ups, walking lunges, trunk rotations etc).

1. D.b rotator cuff:
  - a. 2 x 15 shoulder internal & external rotation by side & above head.
2. Ankle/knee proprioception:
  - a. 2 x 15 sec single leg hop &  $\frac{1}{4}$  turn to balance with eyes closed.
  - b. 2 x 6 diagonal hop & land without pause

## PROGRAM 1: Day 1 & 3 Strength Exercises

|  | WEEK<br>1     | WEEK<br>2     | WEEK<br>3     | WEEK<br>4     | WEEK<br>5     | WEEK<br>6     | Notes<br>Rest 60s between sets  |
|--|---------------|---------------|---------------|---------------|---------------|---------------|---|
| <b>Overhead broomstick squat</b>         | 2 x 12-15     | 4 x 12 -15    | 4 x 10 -12    | 2 x 8 -10     | 4 x 8 -10     | 4 x 6 -8      | Maintain hip-knee-middle toe alignment. Keep knees behind toes, head up and broomstick fully extended above and behind head. Change to barbell if you can complete required reps<br><a href="http://www.catalystathletics.com/exercise/420/Clean-Grip-Overhead-Squat/">http://www.catalystathletics.com/exercise/420/Clean-Grip-Overhead-Squat/</a> |
| <b>Push-up</b>                           | 2 x 12-15     | 3 x 12 -15    | 3x 10 -12     | 2 x 8 -10     | 3 x 8 -10     | 3 x 6 -8      | Perform kneeling if required. Keep body straight and add resistance with theraband held in hands & stretched across back or weight plate on upper back if able.   |
| <b>Theraband Scapula retraction</b>      | 2 x 12-15     | 4 x 12 -15    | 4 x 10 -12    | 2 x 8 -10     | 4 x 8 -10     | 4 x 6 -8      | Maintain straight arms and squeeze shoulder blades together. Add extra theraband resistance as reps decrease.<br><a href="https://www.youtube.com/watch?v=cvicb-p_eUs">https://www.youtube.com/watch?v=cvicb-p_eUs</a>  |
| <b>Single leg pistol squat</b>           | 2 x 12-15     | 3 x 12 -15    | 3 x 10 -12    | 2 x 8 -10     | 3 x 8 -10     | 4 x 6 -8      | Use a support if required to maximize depth whilst maintaining alignment. Reduce support/assistance as reps decrease and your strength & stability improve.<br><a href="https://www.youtube.com/watch?v=1-Yuq9pD7JY">https://www.youtube.com/watch?v=1-Yuq9pD7JY</a>  |
| <b>Single leg glute bridge</b>           | 2 x 12-15     | 3 x 12 -15    | 3 x 12 -15    | 2 x 12-15     | 3 x 12 -15    | 3 x 12 -15    | <a href="https://www.youtube.com/watch?v=3NXvONany-Q">https://www.youtube.com/watch?v=3NXvONany-Q</a>   |
| <b>High to Low kneeling wood chopper</b> | 2 x 15ea side | 4 x 15ea side | 4 x 15ea side | 2 x 15ea side | 4 x 15ea side | 4 x 15ea side | <a href="https://www.youtube.com/watch?v=ax5tIRMnscM">https://www.youtube.com/watch?v=ax5tIRMnscM</a>   |

**PROGRAM 1: Day 2 Strength Exercises-rest for 60s between sets**

|  | <b>WEEK<br/>1</b>     | <b>WEEK<br/>2</b>     | <b>WEEK<br/>3</b>     | <b>WEEK<br/>4</b>     | <b>WEEK<br/>5</b>     | <b>WEEK<br/>6</b>     | <b>Notes</b><br>Rest 60s between sets   |
|--|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|---|
| <b>Turkish get-up</b>  | 2 x 12-15             | 4 x 12 -<br>15        | 4 x 10 -<br>12        | 2 x 8 - 10            | 4 x 8 - 10            | 4 x 6 - 8             | Maintain hip-knee-toe alignment. Keep knee behind toes.<br><a href="https://www.youtube.com/watch?v=Hw6VH5k7wxA">https://www.youtube.com/watch?v=Hw6VH5k7wxA</a>  |
| <b>Stability push up on Swiss ball/BOSU/Duradisc</b>                         | 2 x 12-15             | 3 x 12 -<br>15        | 3 x 10 -<br>12        | 2 x 8 - 10            | 3 x 8 - 10            | 3 x 6 - 8             | Keep body aligned<br><a href="https://www.youtube.com/watch?v=YXEZ6tf-GOA">https://www.youtube.com/watch?v=YXEZ6tf-GOA</a>  |
| <b>Horizontal pull up</b>  | 2 x 12-15             | 3 x 12 -<br>15        | 3 x 10 -<br>12        | 2 x 8 - 10            | 3 x 8 - 10            | 4 x 6 - 8             | Start with feet on floor and progress to feet on box/bench.<br><a href="https://www.youtube.com/watch?v=WLI3F2I5Zu4">https://www.youtube.com/watch?v=WLI3F2I5Zu4</a>  |
| <b>Bodyweight Bulgarian squat (i.e. split squat with back foot on bench)</b> | 2 x 12-15             | 4 x 12 -<br>15        | 4 x 10 -<br>12        | 2 x 8 - 10            | 4 x 8 - 10            | 4 x 6 - 8             | <a href="http://www.catalystathletics.com/exercise/173/Bulgarian-Split-Squat/">http://www.catalystathletics.com/exercise/173/Bulgarian-Split-Squat/</a>   |
| <b>Kneeling opposite arm-leg raise</b>                                       | 2 x 12-15             | 4 x 12 -<br>15        | 4 x 10 -<br>12        | 2 x 8 - 10            | 4 x 8 - 10            | 4 x 6 - 8             | <a href="https://www.youtube.com/watch?v=uofd3HJWrWg">https://www.youtube.com/watch?v=uofd3HJWrWg</a>   |
| <b>Prone shoulder press</b>  | 2 x 12-15             | 3 x 12 -<br>15        | 3 x 10 -<br>12        | 2 x 8 - 10            | 3 x 8 - 10            | 4 x 6 - 8             | Keep arms level with body. Increase resistance as reps decrease.<br><a href="https://www.youtube.com/watch?v=Fa8fPeXg6oA">https://www.youtube.com/watch?v=Fa8fPeXg6oA</a><br>(video has incline bench but you can use flat bench) |
| <b>Side lying clam</b>   | 2 x 15ea<br>side      | 4 x 15ea<br>side      | 4 x 15ea<br>side      | 2 x 15ea<br>side      | 4 x 15ea<br>side      | 4 x 15ea<br>side      | Add resistance with band or weight disk if able<br><a href="https://www.youtube.com/watch?v=X61wkQU-wPg">https://www.youtube.com/watch?v=X61wkQU-wPg</a>  |
| <b>Front &amp; Side support</b>  | 2 x 30sec<br>each pos | 4 x 30sec<br>each pos | 4 x 30sec<br>each pos | 2 x 30sec<br>each pos | 4 x 30sec<br>each pos | 4 x 30sec<br>each pos | <a href="https://www.youtube.com/watch?v=m8dKHbwXio">https://www.youtube.com/watch?v=m8dKHbwXio</a>   |

**PROGRAM 2: Day 1 & 3 Strength Exercises**

|                                    | WEEK 1        | WEEK 2        | WEEK 3        | WEEK 4        | WEEK 5        | WEEK 6        | Notes   |
|------------------------------------|---------------|---------------|---------------|---------------|---------------|---------------|---|
|                                    |               |               |               |               |               |               | Rest 90s – 2min between sets for all exercises  |
| <b>Split squat</b>                 | 2 x 12-15     | 4 x 12 -15    | 4 x 10 - 12   | 2 x 8 - 10    | 4 x 8 - 10    | 4 x 6 - 8     | <a href="http://www.catalystathletics.com/exercise/174/Split-Squat/">http://www.catalystathletics.com/exercise/174/Split-Squat/</a>   |
| <b>D.b bench press</b>             | 2 x 12-15     | 4 x 12 -15    | 4 x 10 - 12   | 2 x 8 - 10    | 4 x 8 - 10    | 4 x 6 - 8     | <a href="https://www.youtube.com/watch?v=omGiL5h2R_I">https://www.youtube.com/watch?v=omGiL5h2R_I</a>   |
| <b>D.b bench pull</b>              | 2 x 12-15     | 4 x 12 -15    | 4 x 10 - 12   | 2 x 8 - 10    | 4 x 8 - 10    | 4 x 6 - 8     | <a href="https://www.youtube.com/watch?v=sTgMVP5VI8">https://www.youtube.com/watch?v=sTgMVP5VI8</a><br>(ignore rotation component in video)   |
| <b>Back squat</b>                  | 2 x 12-15     | 3 x 12 -15    | 3 x 10 - 12   | 2 x 8 - 10    | 3 x 8 - 10    | 4 x 6 - 8     | Aim to squat all the way down. Thighs should be past parallel.<br><a href="https://www.youtube.com/watch?v=ZssdcTY8Jdc">https://www.youtube.com/watch?v=ZssdcTY8Jdc</a>   |
| <b>Standing D.b shoulder press</b> | 2 x 12-15     | 4 x 12 -15    | 4 x 10 - 12   | 2 x 8 - 10    | 4 x 8 - 10    | 4 x 6 - 8     | <a href="https://www.youtube.com/watch?v=M2rwwNhTOu0">https://www.youtube.com/watch?v=M2rwwNhTOu0</a><br>(can also perform with palms facing forward)   |
| <b>Reverse fly's</b>               | 2 x 12-15     | 3 x 12 -15    | 3 x 10 - 12   | 3 x 8 - 10    | 3 x 8 - 10    | 3 x 6 - 8     | <a href="https://www.youtube.com/watch?v=evXOlglTPCw">https://www.youtube.com/watch?v=evXOlglTPCw</a>   |
| <b>Romanian Dead Lift</b>          | 2 x 12-15     | 3 x 12 -15    | 3 x 10 - 12   | 2 x 8 - 10    | 3 x 8 - 10    | 4 x 6 - 8     | Similar to straight leg deadlift but keep slight bend in knees throughout.<br><a href="http://www.catalystathletics.com/exercise/101/Romanian-Deadlift/">http://www.catalystathletics.com/exercise/101/Romanian-Deadlift/</a> |
| <b>Med ball side pass</b>          | 2 x 15ea side | 4 x 15ea side | 4 x 15ea side | 2 x 15ea side | 4 x 15ea side | 4 x 15ea side | <a href="https://www.youtube.com/watch?v=2BmitGSZKPs">https://www.youtube.com/watch?v=2BmitGSZKPs</a>   |

**PROGRAM 2: Day 2 Strength Exercises**

|  | <b>WEEK<br/>1</b> | <b>WEEK<br/>2</b> | <b>WEEK<br/>3</b> | <b>WEEK<br/>4</b> | <b>WEEK<br/>5</b> | <b>WEEK<br/>6</b> | <b>Notes</b><br>Rest 90s - 2 min between sets for all exercises.  |
|--|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|---|
| <b>Dead lift</b>                         | 2 x 6             | 4 x 6             | 4 x 4             | 2 x 3             | 4 x 3             | 3,3,2,2           | <a href="https://www.youtube.com/watch?v=op9kVnSso6Q">https://www.youtube.com/watch?v=op9kVnSso6Q</a>   |
| <b>Chin ups</b>                          | 2 x 6 - 8         | 4 x 6-8           | 4 x 4-6           | 2 x 3-5           | 4 x 3             | 3,3,2,2           | Use overhand grip & add weight around weight if possible<br><a href="http://www.catalystathletics.com/exercise/40/Chin-up/">http://www.catalystathletics.com/exercise/40/Chin-up/</a> |
| <b>Incline d.b bench press</b>           | 2 x 6 - 8         | 4 x 6-8           | 4 x 4-6           | 2 x 3-5           | 4 x 3             | 3,3,2,2           | <a href="https://www.youtube.com/watch?v=8bfJ3sfUTos">https://www.youtube.com/watch?v=8bfJ3sfUTos</a>   |
| <b>Bulgarian squat</b>                   | 2 x 6 - 8         | 4 x 6-8           | 4 x 4-6           | 2 x 3-5           | 4 x 3             | 3,3,2,2           | <a href="http://www.catalystathletics.com/exercise/173/Bulgarian-Split-Squat/">http://www.catalystathletics.com/exercise/173/Bulgarian-Split-Squat/</a>                               |
| <b>Prone shoulder press</b>              | 2 x 6 - 8         | 4 x 6-8           | 4 x 6             | 2 x 6             | 4 x 6             | 4 x 6             | <a href="https://www.youtube.com/watch?v=Fa8fPeXg6oA">https://www.youtube.com/watch?v=Fa8fPeXg6oA</a><br>(video has incline bench but you can use flat bench)                         |
| <b>High to Low kneeling wood chopper</b> | 2 x 8             | 4 x 8             | 4 x 6             | 3 x 5             | 5 x 3             | 5 x 3             | <a href="https://www.youtube.com/watch?v=ax5tIRMnscM">https://www.youtube.com/watch?v=ax5tIRMnscM</a>   |

### **PROGRAM 3**

This program may be appropriate for someone who has approximately 6-12 months of formal strength training background (depending on individual circumstances). Keep in mind that it does not take into account your individual circumstances. Importantly it only covers a small number of weeks and therefore requires a follow up program. Similar warm up activities to those suggested in the beginner program are appropriate.



**PROGRAM 3: Day 1 & 3 Strength Exercises**

|                                  | WEEK 1                  | WEEK 2                  | WEEK 3                  | WEEK 4                  | WEEK 5                  | WEEK 6                  | Notes   |
|----------------------------------|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------|---|
|                                  |                         |                         |                         |                         |                         |                         | Rest 2-3min between sets for all exercises  |
| Clean pull                       | 2 x 5                   | 4 x 5                   | 4 x 5                   | 5,3                     | 5,3,3,3                 | 3,3,2,1                 | <a href="http://www.catalystathletics.com/exercise/100/Clean-High-Pull/">http://www.catalystathletics.com/exercise/100/Clean-High-Pull/</a>   |
| D.b bench press                  | 2 x 8                   | 4 x 8                   | 4 x 6                   | 6,4                     | 6,6,4,4                 | 3,3,2,1                 | <a href="https://www.youtube.com/watch?v=omGiL5h2R_I">https://www.youtube.com/watch?v=omGiL5h2R_I</a>   |
| Single arm Seated row            | 2 x 8                   | 4 x 8                   | 4 x 6                   | 6,4                     | 6,6,4,4                 | 3,3,2,1                 | <a href="https://www.youtube.com/watch?v=dL3_oLhO8y0">https://www.youtube.com/watch?v=dL3_oLhO8y0</a>   |
| Back squat                       | 2 x 8                   | 4 x 8                   | 3 x 6                   | 6,4                     | 6,6,4,4                 | 3,3,2,1                 | <a href="https://www.youtube.com/watch?v=ZssdcTY8Jdc">https://www.youtube.com/watch?v=ZssdcTY8Jdc</a>   |
| Alternate arm D.b shoulder press | 2 x 8                   | 4 x 8                   | 4 x 6                   | 6,4                     | 6,6,4,4                 | 3,3,2,1                 | <a href="https://www.youtube.com/watch?v=v0luj1DXg3M">https://www.youtube.com/watch?v=v0luj1DXg3M</a>   |
| Reverse fly's                    | 2 x 8                   | 3 x 8                   | 3 x 6                   | 6,4                     | 6,4,4                   | 3,3,3                   | <a href="https://www.youtube.com/watch?v=evXOlGLTPCw">https://www.youtube.com/watch?v=evXOlGLTPCw</a>   |
| Single leg Romanian Dead Lift    | 2 x 8                   | 3 x 8                   | 3 x 6                   | 6,4                     | 6,4,4                   | 3,3,3                   | Use med ball or d.b's to add weight<br><a href="https://www.youtube.com/watch?v=WAMBvWe65Qo">https://www.youtube.com/watch?v=WAMBvWe65Qo</a>  |
| Med ball side pass               | 2 x 15ea side           | 4 x 15ea side           | 4 x 15ea side           | 2 x 15ea side           | 4 x 15ea side           | 4 x 15ea side           | <a href="https://www.youtube.com/watch?v=2BmitGSZKPs">https://www.youtube.com/watch?v=2BmitGSZKPs</a>   |
| TRX front & side support         | 2 x 30sec each position | 4 x 30sec each position | 4 x 30sec each position | 2 x 30sec each position | 4 x 30sec each position | 4 x 30sec each position | Move feet further away from straps to make harder. Can also put feet on bench/box. For side support use one arm & position body side on.<br><a href="https://www.youtube.com/watch?v=3sH0cwpAvVc">https://www.youtube.com/watch?v=3sH0cwpAvVc</a> |

**PROGRAM 3: Day 2 Strength Exercises**

|                                     | <b>WEEK<br/>1</b> | <b>WEEK<br/>2</b> | <b>WEEK<br/>3</b> | <b>WEEK<br/>4</b> | <b>WEEK<br/>5</b> | <b>WEEK<br/>6</b> | <b>Notes</b><br>Rest 2-3min between sets for all exercises   |
|-------------------------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|--|
| <b>Split Jerk</b>                   | 2 x 5             | 4 x 5             | 4 x 5             | 5,3               | 5,3,3,3           | 3,3,2,1           | Can perform this with bar behind neck or in front. "Push Press" is another variation that can be used in place of Split Jerk.<br><a href="http://www.catalystathletics.com/exercise/213/Jerk-Behind-The-Neck-Split-Jerk-Behind-The-Neck/">http://www.catalystathletics.com/exercise/213/Jerk-Behind-The-Neck-Split-Jerk-Behind-The-Neck/</a> |
| <b>Bench press + med ball throw</b> | 2 x 8             | 4 x 8             | 4 x 6             | 6,4               | 6,6,4,4           | 3,3,2,1           | Stay laying on bench or move to floor and complete 3 throws immediately after each set of bench then follow with rest.<br><a href="https://www.youtube.com/watch?v=ZlrvmNfFJw">https://www.youtube.com/watch?v=ZlrvmNfFJw</a>  |
| <b>Gi/Towel Chin ups</b>            | 2 x 8             | 4 x 8             | 4 x 6             | 6,4               | 6,6,4,4           | 3,3,2,1           | <a href="https://www.youtube.com/watch?v=PBOc76Vbj_s">https://www.youtube.com/watch?v=PBOc76Vbj_s</a>  |
| <b>Back squat + hurdles</b>         | 2 x 8             | 4 x 8             | 3 x 6             | 6,4               | 6,6,4,4           | 3,3,2,1           | 3 hurdle jumps immediately after each set of squats (ignore instruction in video regarding 5 hurdles). <a href="https://www.youtube.com/watch?v=ZssdcTY8Jdc">https://www.youtube.com/watch?v=ZssdcTY8Jdc</a><br><a href="https://www.youtube.com/watch?v=tvVr-Gca9FI">https://www.youtube.com/watch?v=tvVr-Gca9FI</a>                        |
| <b>Circles</b>                      | 2 x 8             | 3 x 8             | 3 x 6             | 6,4               | 6,4,4             | 3,3,3             |  |
| <b>Nordic hamstring lowers</b>      | 2 x 6             | 3 x 6             | 3 x 6             | 6,4               | 6,4,4             | 3,3,3             | Add weight if you can perform with own body weight. Lower as slowly as possible. <a href="https://www.youtube.com/watch?v=qPRZcNx_COA">https://www.youtube.com/watch?v=qPRZcNx_COA</a>   |
| <b>Grappler</b>                     | 2 x 8ea side      | 4 x 8ea side      | 4 x 6ea side      | 3 x 5ea side      | 5 x 3ea side      | 5 x 3ea side      | <a href="https://www.youtube.com/watch?v=HFyQvQnFEOA">https://www.youtube.com/watch?v=HFyQvQnFEOA</a>  |

## SAMPLE CONDITIONING PROGRAMS

### GENERAL RECOMMENDATIONS

- Ensure you have supervision from a suitably qualified person.
- Do not perform an activity if it causes pain.
- Commence each session with a warm up and finish with some type of recovery activity (e.g. light stretching, wear compression garments, hydrotherapies).

The following conditioning program examples are based around running but can be adapted to other modalities such as cycling or rowing. They are designed around the concept of maximizing the time you spend at or above the speed that achieves maximal aerobic capacity ( $VO_2\text{max}$ ). For the sake of this program, it is about the speed you are running at when you drop out of the Beep test. There may be some place for 30-60 minute steady state runs but these should not form the basis of your conditioning program. In addition, other training modalities such as circuit training and on-mat drills may be useful.

The first think you need to do is calculate your maximum aerobic speed (MAS). You can do this in 2 ways.

#### Method 1: Calculate MAS from Beep Test Score

Level 1 of the Beep test starts at 8km/h and increases by 0.5km/h each level so that by Level 21 the speed is 18.5km/h. Based on this, work out your running speed depending on your beep test score and put it into the equation below to work out your MAS.

$$\text{MAS} = (2.4 \times \text{max shuttle speed in km}\cdot\text{h}) - 14.7$$

For example, if you dropped out at Level 12,2 the running speed is 14km/h. The equation then becomes:  $\text{MAS} = (2.4 \times 14) - 14.7$

$$\text{MAS} = 19 \text{ km/h. For ease of use you can then convert this to speed in m/s.}$$

Multiply the speed in km/h by 1000 and divide by 3600 e.g.  $19000/3600 = 5.3 \text{ m/sec}$

### **Method 1: Calculate MAS from Time Trial**

Perform a 2km time trial around an athletics track. If you are going to do conditioning sessions on a rowing ergo or bike you can do the same thing by performing a time trial (approximately 10min will work) on that piece of equipment.

MAS = time trial distance in metres/time to complete trial in seconds

For example, if you ran a 2km TT in 8mins your MAS would be:

$$2000/480 = 4 \text{ m/sec}$$

### **Using MAS to determine program**

Regardless of how you determine MAS, you then need to use it to guide your training sessions. For example if you have an MAS of 5m/s and the program requires you to run for 15sec at 100% MAS, you work out your running distance by multiplying your MAS by the time (5m/s x 15s). In this example you would need to run 75m in 15sec.

If you have a longer interval session (e.g. 5min at 100% MAS) you can work out how far you should run in total and then how long it should take you to run around parts of a 400m track so you can keep on time. In this case, if your MAS is 5m/sec you should run 300m in 1 minute (150m every 30sec which equals 100m in 20sec) and 1500m in 5mins.

### **Session examples**

- Commence each session with an appropriate sub-maximal warm up using the same exercise modality as you will perform the session in.
- If you are performing a high intensity interval training session, ensure you do some progressively higher intensity intervals before you commence the session.
- Follow each session with appropriate recovery (e.g. hydrotherapy, compression tights, nutrition & hydration).
- Sessions 1-3 are general aerobic conditioning programs that may suit a general preparation phase of training. Sessions 4 & 5 are relatively higher intensity and suitable once you have a base of conditioning. Sessions 6 – 8 are very high intensity repeated effort sessions. The volume of these sessions is low but the very high intensity will result in rapid gains in aerobic fitness.
- The relevance of each session is dependent on your individual needs (fitness level, injury status etc.) and it may need modification from the sets, reps and speeds below in order to

meet your requirements. There are countless combinations of sets, reps and rest periods possible.

### **Session 1**

4 x 5min @ 100% MAS with 3min rest between efforts.

### **Session 2**

3 x 5min @ 100% MAS with 3min rest between efforts.

2 x 3min @ 110% MAS with 2min rest between efforts.

### **Session 3**

1 x 5min @ 100% MAS with 3min rest between efforts.

2 x 3min @ 110% MAS with 1min jog & 1min rest between efforts.

2 x 2min @ 110% MAS with 90sec jog between efforts.

### **Session 4**

3 x 1min @ 110% MAS with 60sec jog between efforts

6 x 30sec @ 110% MAS with 30sec walk between efforts. Rest for 60s after set of 6.

8 x 15sec @ 115% MAS with 15sec rest between efforts

### **Session 5**

4 x 30sec @ 110% MAS with 30sec walk between efforts. Rest for 60s after set of 4.

6 x 15sec @ 115% MAS with 15sec rest between efforts. Rest for 90s after set of 4.

8 x 10sec @ 120% MAS with 10sec rest between efforts

### **Session 6**

6 x 15sec @ 115% MAS with 15sec rest between efforts. Rest for 90s after set of 6.

2 x (8 x 10sec @ 120% MAS with 10sec rest between efforts) with 90s between sets of 8.

### **Session 7**

4 x (6 x 10sec @ 120% MAS with 10sec rest between efforts) with 90s rest between sets of 4.

### **Session 8**

6 x 10sec @ 130% MAS with 10sec rest between efforts. Rest for 2min after set of 6.

2 x (6 x 10sec @ 120% MAS with 10sec rest between efforts) with 90s between sets of 6.

## **WEEKLY SCHEDULE**

The key with all aspects of training is that they work together to improve your on-mat performance. There are endless ways in which different training modalities can be combined to produce a weekly schedule. Some of the factors that should influence the design of a weekly schedule are:

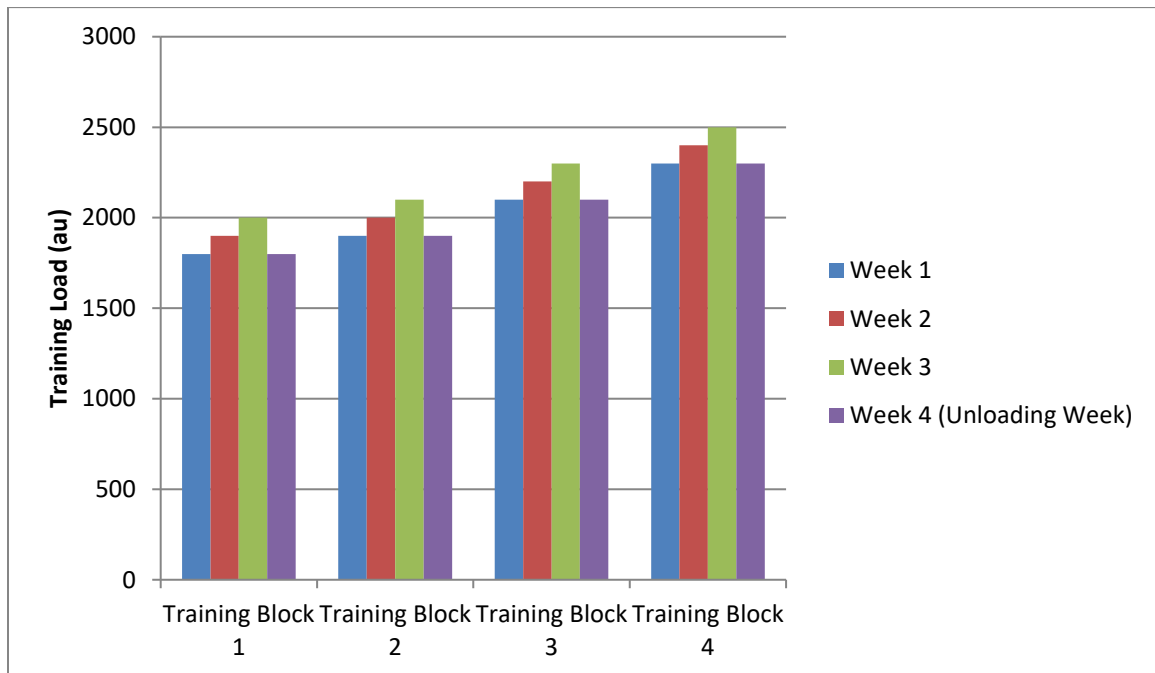
- Other commitments (e.g. School)
- Phase of the annual calendar (e.g. preparation for major event vs general conditioning phase)
- Individual emphasis based on specific strengths and areas for improvement.
- Club training schedule.
- Periods of heavy and lighter training.

Despite the possible factors that will determine an individual schedule, the following aspects should be considered:

- Judo training should be the priority (4-5 sessions per week) in the period leading up to tournaments (particularly 10 – 14 days prior to competing which should be part of a “taper” where training volume is decreased)
- In general phases of training depending on club schedule you should complete:
  - 3-5 sessions of Judo training
  - 2-3 strength training sessions
  - 2 conditioning sessions
- Try and separate sessions performed on the same day (i.e. morning and afternoon/evening).
- When training twice per day, ensure one of the sessions is relatively light in comparison to the other (you can obviously complete 2 light sessions in one day but avoid 2 hard sessions on the same day). As you progress from Junior to Senior Judo you should aim to have multiple days per week where you are training twice (e.g. Judo session & strength training session).
- Aim for at least one complete day off per week.

## **LONGER TERM TRAINING LOAD MANIPULATION**

- Each week should be planned as part of an overall manipulation of training. For example, you should have combinations of hard, medium and light (unloading) training weeks (see strength training examples above where “unloading” weeks have only 2 sets). As a general guideline, you should have an unloading week every 3-4 weeks.
- The chart below is an example of 4 consecutive training blocks each comprising 4 weeks. The 4<sup>th</sup> week of each Training Block is designated as the unloading week (you could just as easily have every 3<sup>rd</sup> week as an unloading week). The plan below involves progressive increases in load across 3 of the 4 weeks. The first week of each subsequent training block starts higher than the first week of the previous block and results in a progressive increase in training load. Note that the first week of each block does not start at the highest load achieved in the previous block because that first week follows an unloading week (see points below). You should not feel restricted to the pattern shown here. Whilst this pattern is “low”, “medium”, “high”, “unloading” there are many other options. The key is that it is planned, and involves regular variation (including unloading weeks). Note: values are made up to illustrate the concept only – see later section on Session by Session Training Load Prescription and Monitoring.



- Although there are no hard and fast rules, the manipulation of training volume and intensity should keep in mind the following:
  - Limit increases in volume to a maximum of 10-15% from one week to the next.
  - In general, an unloading week is achieved via a reduction in training volume (i.e. minutes, sets, etc.). Intensity can often be maintained because the volume is

- reduced, but it can also be appropriate to reduce intensity (particularly when working with Junior athletes).
- You should aim to increase training progressively over multiple weeks in preparation for periods of higher level training (e.g. AIS camps) so that this training doesn't represent a large "spike" in training load.

## **SESSION BY SESSION TRAINING LOAD PRESCRIPTION AND MONITORING**

### **Prescription**

Prescribing training load for Judo is quite challenging. Unlike sports such as running, cycling or swimming etc., speed and distance variables are inappropriate. Furthermore, in these sports measures such as Heart Rate can also be used to prescribe intensity but this is also limited in Judo. There are some potentially useful approaches but it is beyond the scope of this document to go into depth. We will examine some of these at the Coaches Workshop at the AIS. Perhaps the simplest method to start with is to use session duration (minutes), however this can substantially underestimate the "cost" of short, high intensity sessions and overestimate longer duration low intensity sessions.

Off-mat training can be prescribed much more easily. For example strength training can be prescribed using an absolute load to be lifted, % of maximum in addition to a couple of more subjective approaches. Conditioning training in the form of running, rowing, and cycling can be prescribed using a % of maximum aerobic speed from a fitness test. These approaches will also be explored during the Coaches Workshop.

### **Monitoring**

Whilst prescription can be challenging, monitoring the response to training is simple. The most widely accepted method is to collect what is known as session rating of perceived exertion (RPE) after each session. All that is required is for athletes to rate "How hard was your session" using the scale below. The rating should be provided 10-30min after the completion of the session. It is critical that the number provided is based on the written descriptor to the left and that it is completely individual (therefore best done in private). There are no right or wrong answers, and how hard other athletes found the session is irrelevant. It is also not relevant how hard the coach thought the session was. In fact, there is strong evidence to suggest that coaches under rate session intensity compared to athletes and so athletes should be left to rate the session on a purely individual basis. They should be educated that it is not a contest to see who can provide the lowest rating and it is not a measure of "toughness".



## Session RPE Scale

| Verbal Descriptor   | RPE Value |
|---------------------|-----------|
| Rest                | 0         |
| Really easy/light   | 1         |
| Easy/light          | 2         |
| Moderate            | 3         |
| Somewhat hard       | 4         |
| Hard                | 5         |
|                     | 6         |
| Really hard         | 7         |
|                     | 8         |
| Really, really hard | 9         |
| Maximal             | 10        |

## Calculating Training Load

By collecting RPE after every session, a measure of Training Load can be calculated. This is achieved by multiplying RPE by session duration. For example:

Session RPE = 6 Duration = 50min      Session Load = 300 units

Session RPE = 4 Duration = 60min      Session Load = 240 units

Session RPE = 8 Duration = 90min      Session Load = 720 units

Weekly Load can be calculated by adding together the Session Load for all sessions in the week. In the example above the Weekly Load would be 300+240+720=1260 units. You can then track weekly load across weeks.

Whilst it was pointed out above that prescribing load for Judo can be difficult, it is possible to prescribe using RPE, although there are some important drawbacks. The major one is that the coach planning the session is likely to underestimate how hard it was compared to the perception of the athletes (this doesn't make the athlete's rating wrong). As a result, it is very easy to prescribe training that is much harder than would be optimal. However, as long as a coach keeps this in mind and continually adjusts the training that's prescribed, it can be a useful tool. The graph above in the section on Longer Term Training Load Manipulation is an example of weekly training load represented using RPE. The values in this graph are only for the purposes of illustrating the concept but are probably not far off realistic session load values from RPE. As mentioned earlier, you should aim to limit increases in load from week to week to around 10-15%.