

CIRCUIT TRAINING ON THE HANDBALL COURT

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About Circuit Training

- Excellent way to improve agility, strength, stamina.
- Comprises of 6 to 10 exercises.
- One exercise completed after another.
- Each exercise is performed for a specified number of repetitions or for a set time before moving on.
- Between the stations short rest period, between each circuit longer rest.
- The total number of circuits may vary from 2 to 6 depending on the level, the period and the objective training.

Advantages and Disadvantages

Advantages of circuit training are:

- ✓ Develops agility, strength and endurance
- ✓ Appropriate form of training for most sports
- ✓ Can be adjusted to suit age and level of fitness
- ✓ Exercises are simple enough to feel success
- ✓ A wide range of exercises to select from which will maintain the athlete's enthusiasm
- ✓ Encourages disciplined individual work
- ✓ Facilitates collaboration between team mates
- ✓ Exercise routine keeps the athletes focused
- ✓ Encourages team work and team spirit

Disadvantages of circuit training are:

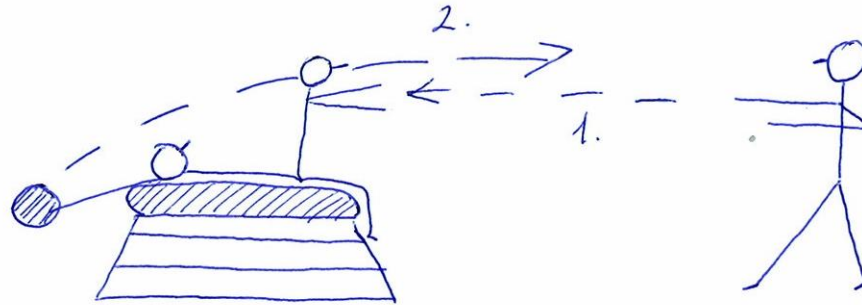
- Many exercises require specialised equipment
- Space required to set up the circuit
- Pre-planning and organisation needed
- Dependent on the number of players
- Can only be conducted where appropriate facilities/equipment are available

Planning

- Identify **3 to 4 circuits** of **6 to 10 exercise** that can be performed with the available resources.
- Ensure that **no** two consecutive exercises exercise the **same muscle group**.
- Work each body part as follows: **Total-body -> Upper-body -> Lower-body -> Core & Trunk -> Total-body** etc.
- For each circuit have a set of **Exercise card** written on:
 - number of station
 - equipment needed
 - required exercise
 - duration of the exercise
 - recovery time.

4.

THROWING 3 KG MEDICINE BALL WITH TWO HANDS

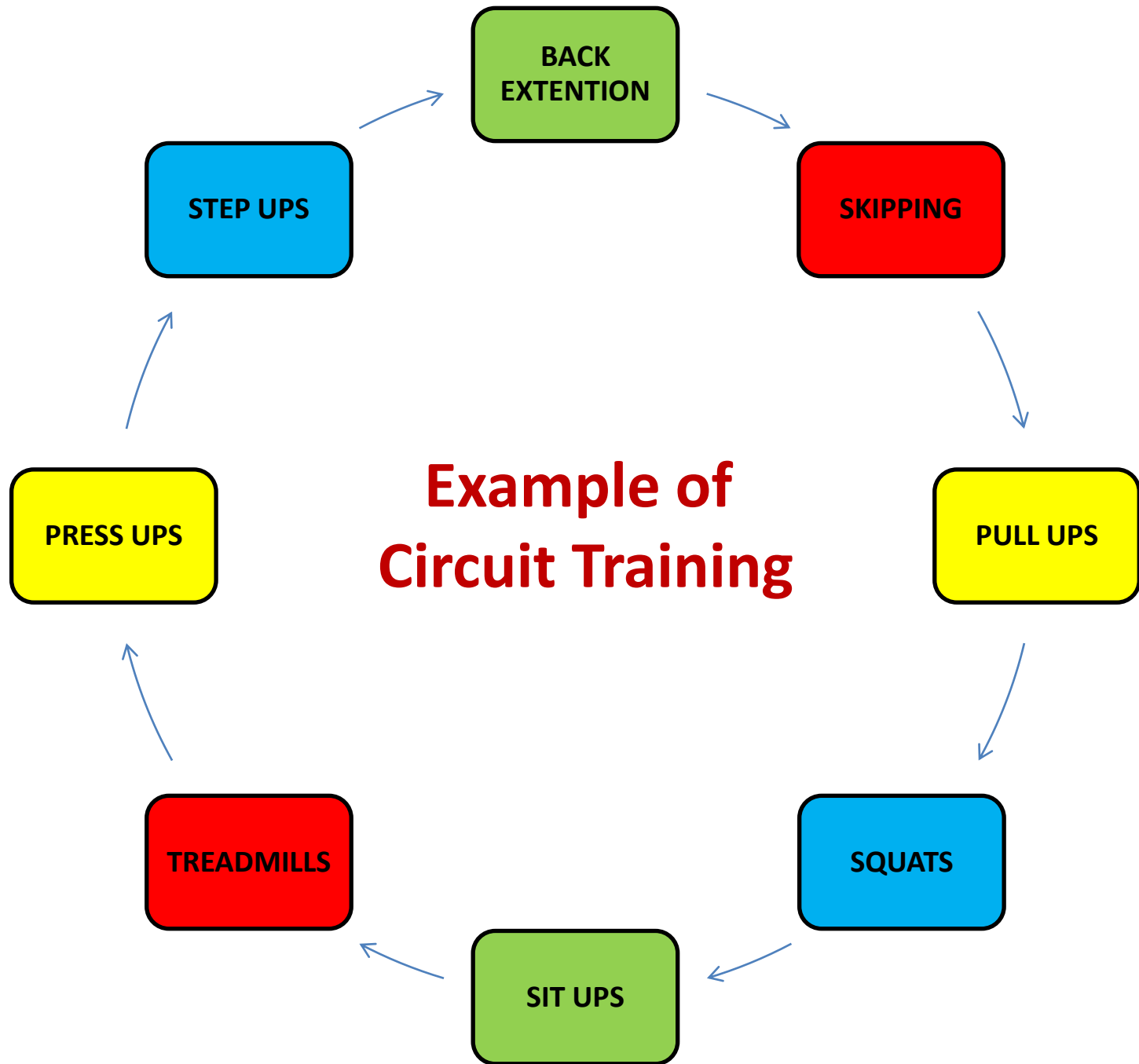


Exercise: **20 sec.**

Rest: **40 sec.**

Repetitions: **x 2**

Coach's hint: **catch on the fall and throw on the rise**



Workload and **Intensity** is a combination and variation of:

- **Number** of the exercises per station (from 1 to 2).
- **Duration** of the exercises can be based on time (e.g. 20 seconds) or number of repetitions (e.g. 25 sit ups).
- **Sets** depends on the aim of the training (6 to 10).
- **Repetitions** based on regular testing (certain % of max. capacity).
- **Recovery** time between the exercises depends on the type of exercise (dynamic strength, strength endurance, endurance/ stamina) and the number of stations

Workload and **Intensity** = **VOLUME** of training

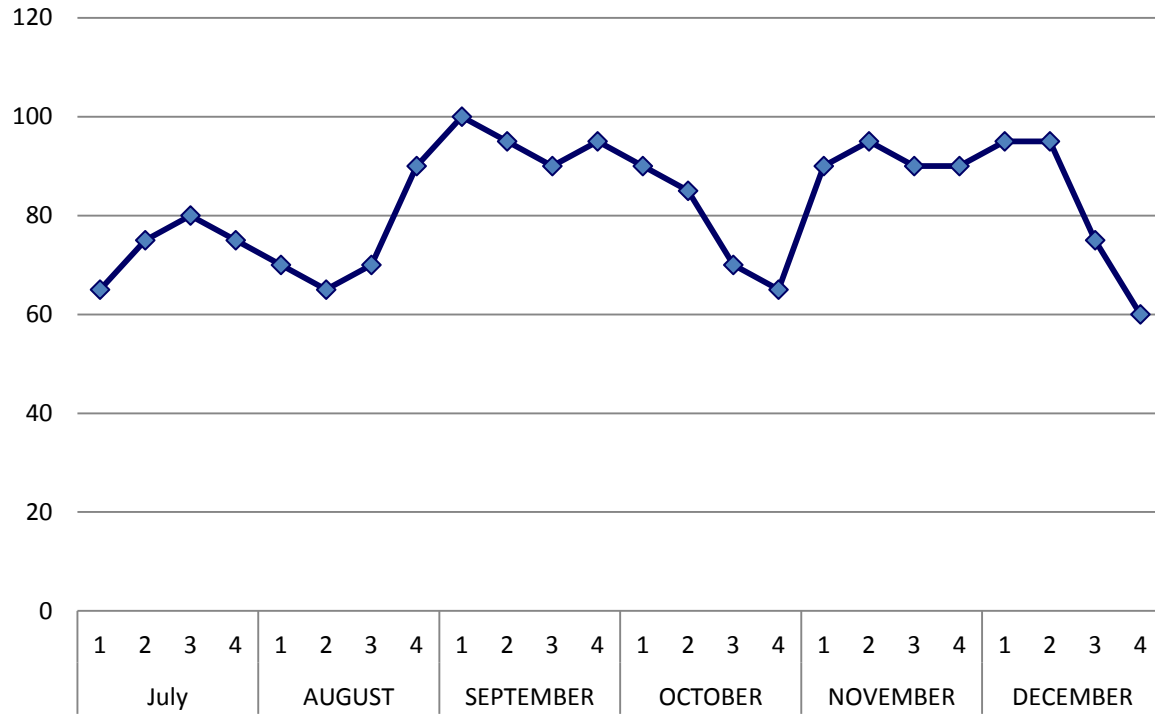
Intensity - Workload - Volume

	July				AUGUST				SEPTEMBER				OCTOBER				NOVEMBER				DECEMBER			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
INTENSITY (%)	65	75	80	75	70	65	70	90	100	95	90	95	90	85	70	65	90	95	90	90	95	95	75	60
WORK LOAD (%)	60	65	75	80	90	95	100	80	75	75	75	70	75	80	85	95	80	75	80	75	75	70	65	55
VOLUME (%)	63	70	78	78	80	80	83	85	87	85	83	83	83	82	83	80	85	85	85	83	85	78	70	58

1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
July				AUGUST				SEPTEMBER				OCTOBER				NOVEMBER				DECEMBER			

Intensity - Workload - Volume

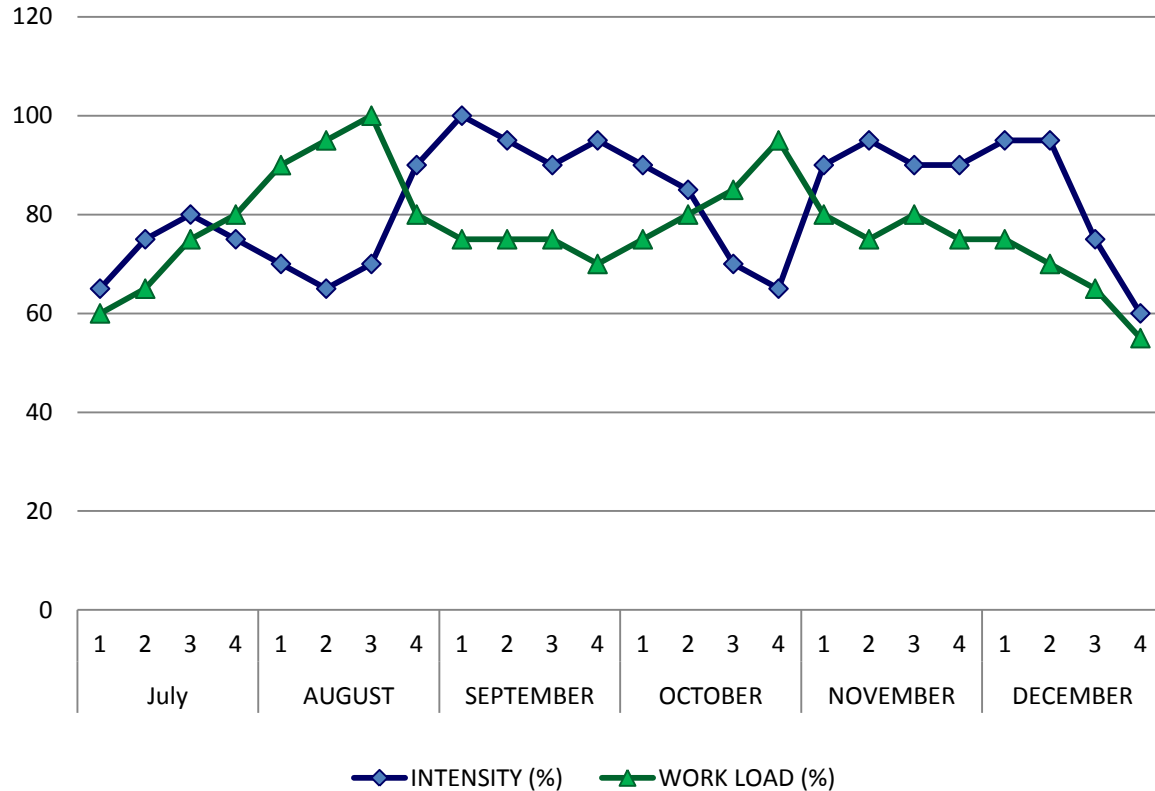
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—◆— INTENSITY (%)

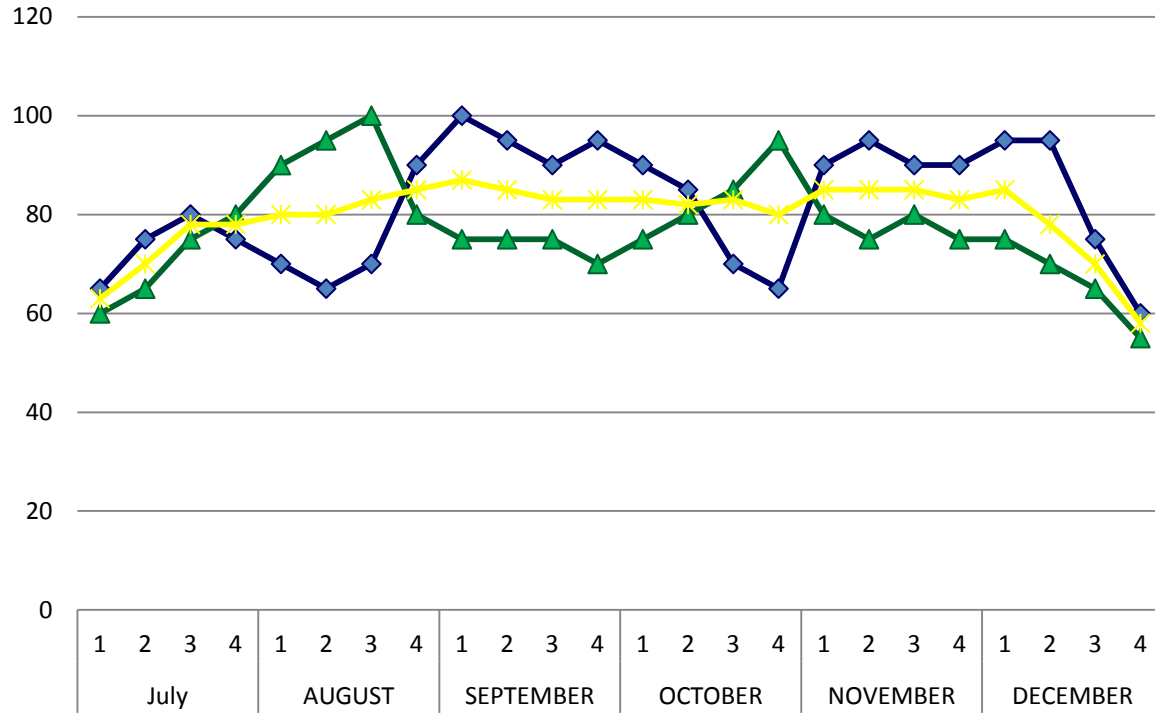
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◆ INTENSITY (%) ▲ WORK LOAD (%) * VOLUME (%)

Practical points

- Most often **even number** of players ideal.
- Exercise stations should have the **same volume**.
- Exercising **one by one** or in **pairs**.
- When **two players** per station:
 - both players doing the same exercises
 - both players doing different exercises at once
 - one player working the other assisting
 - one player working the other resting
- Starting and finishing for a **whistle signal**.
- Selecting **general** or handball **specific** exercises.
- Starting with **warm up** and **cool down** after exercises.
- Clear **demonstration** and **explanation** before the start.

Designing a Circuit training on the Handball court

Type of Work			

Designing a Circuit training on the Handball court

Type of Work / Areas of Planning	DYNAMIC STRENGTH	STRENGTH ENDURANCE	ENDURANCE / STAMINA
No. of Players			

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Type of Work / Areas of Planning	DYNAMIC STRENGTH	STRENGTH ENDURANCE	ENDURANCE / STAMINA
No. of Players	1-2 per Station	1-2 per Station	1-2 per Station
No. of Exercise Stations			

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No. of Rest Stations	2 1 1	2 1 1	0
Exercise time	20 Sec. X 2	30 Sec. X 2	40 Sec. X 3
Rest time	40 Sec. X 1	30 Sec. X 1	20 Sec. X 1
Travel time	40 Sec.	30 Sec.	20 Sec.

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Sets			

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Total time			

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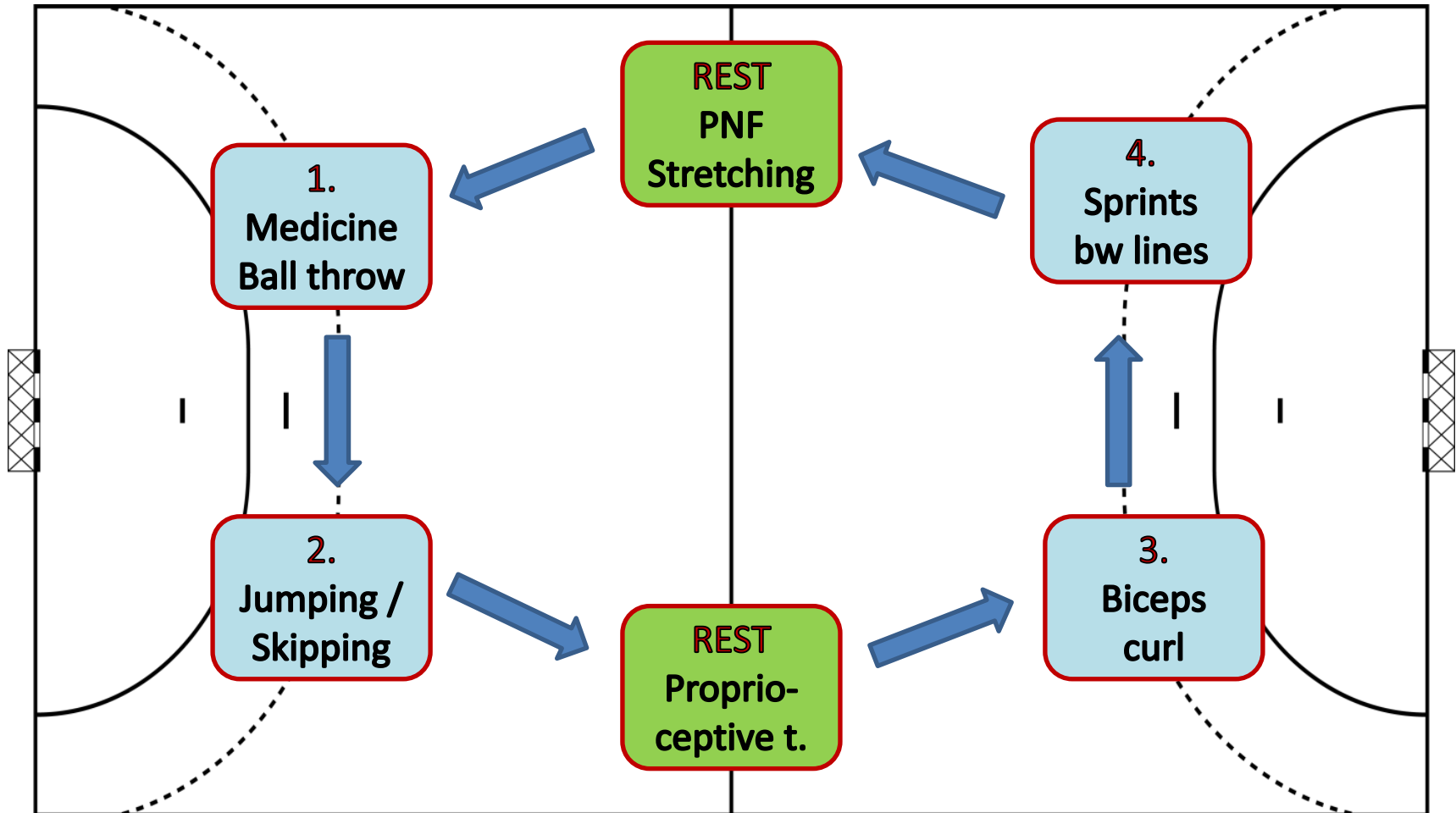
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Exercise selection			

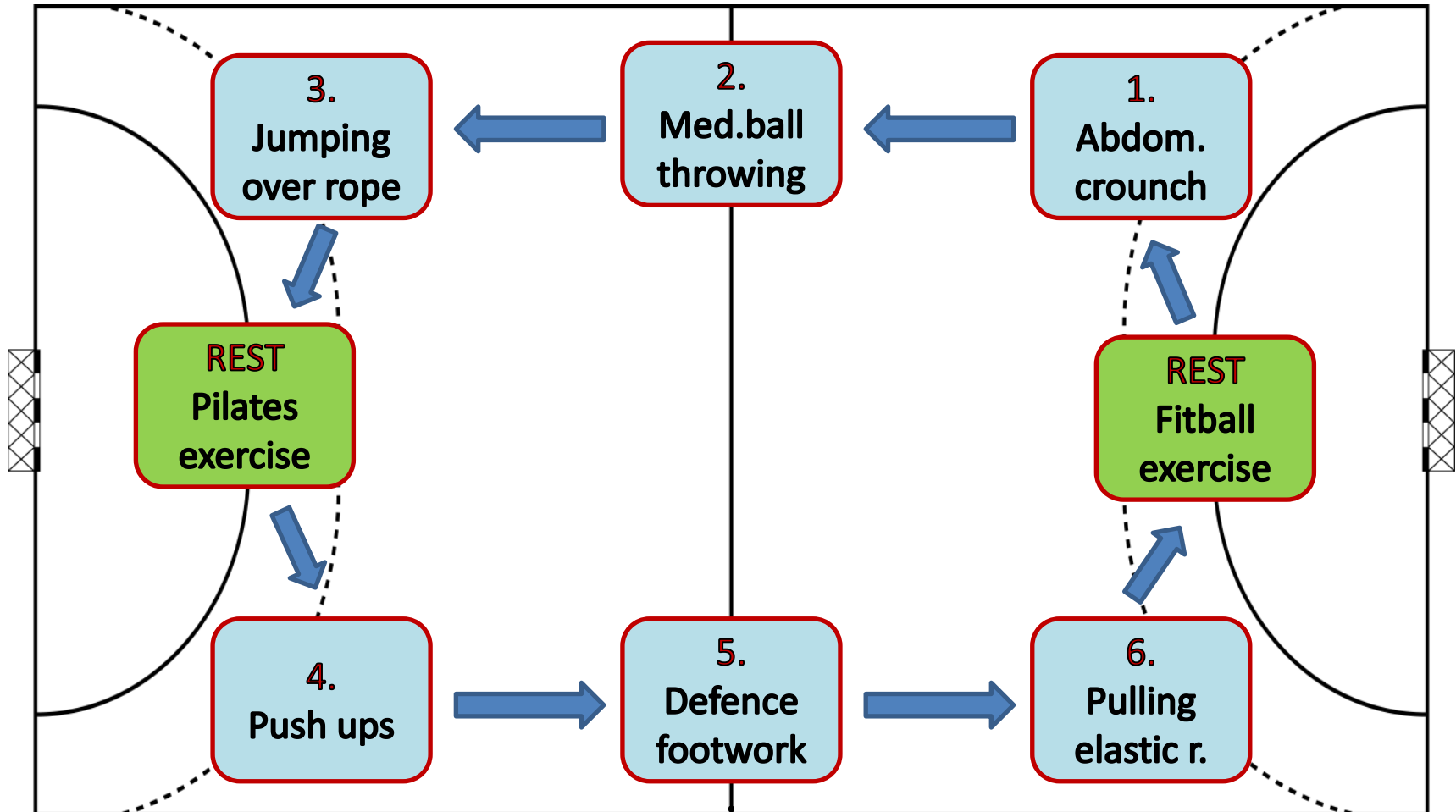
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Work load	High / Medium	Medium /High	Medium / Low
Sets	1 - 2	2-3	2 - 3
Total time	6x2' = 12 min.	8x2' = 16 min.	8x3' = 24 min.
Exercise selection	Motor Ability	Ability + Skill	Skill + Stamina

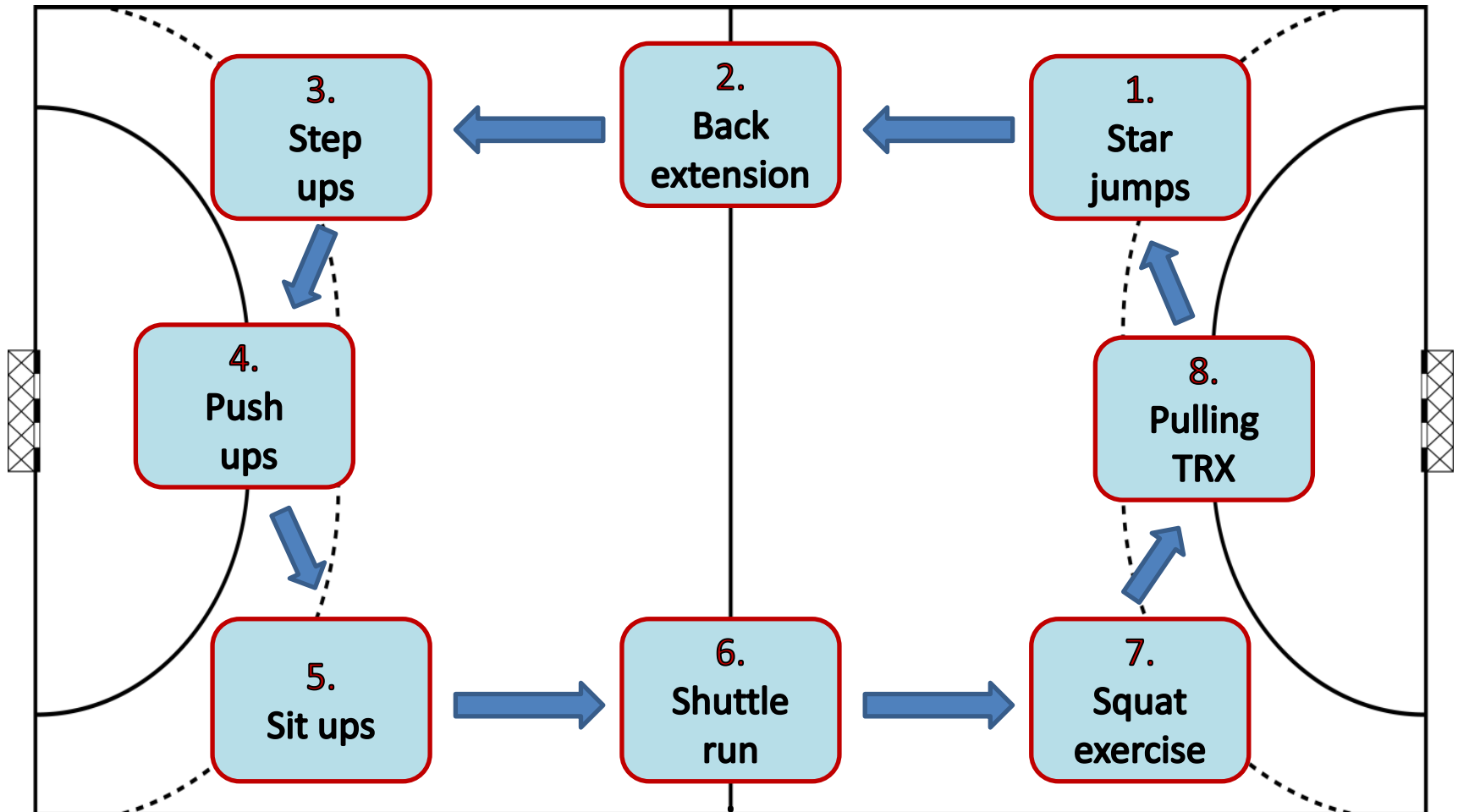
Example 1 – Dynamic strength



Example 2 – Strength-endurance



Example 3 – Endurance / Stamina



Main sources

<http://www.brianmac.co.uk/circuit.htm>

http://www.bbc.co.uk/schools/gcsebitesize/pe/exercise/1_exercise_principles_rev4.shtml

References

- 1.GODFREY, R.J. et al. (2005) The detraining and retraining of an elite rower: a case study. *J Sci Med Sport*, 8 (3), p. 314-320
- 2.HAWLEY, J. (2008) *Specificity of training adaptation: time for a rethink?* *Journal of Physiology*, 586 (Pt 1), p. 1–2.
- 3.Burgomaster KA. et al (2008) *Similar metabolic adaptations during exercise after low volume sprint interval and traditional endurance training in humans* .*J Physiol*. 586. p.151–160

Related References

The following references provide additional information on this topic:

- ZARYSKI, C., & SMITH, D. J. (2005) Training principles and issues for ultra-endurance athletes. *Current sports medicine reports*, 4 (3), p. 165-170.
- STONE, M. et al. (2000) Training principles: Evaluation of modes and methods of resistance training. *Strength & Conditioning Journal*, 22 (3), p. 65.
- STONE, M. et al. (2002) Strength and conditioning: Training principles: evaluation of modes and methods of resistance training - a coaching perspective. *Sports Biomechanics*, 1 (1), p. 79-103.

Page Reference

The reference for this page is:

- MACKENZIE, B. (2000) *Training Principles* [WWW] Available from: <http://www.brianmac.co.uk/trnprin.htm> [Accessed 3/6/2015]

Related Pages

The following Sports Coach pages provide additional information on this topic:[raining](#)

Additional Sources of Information

For further information on this topic see the following:

- BEASHEL, P. & TAYLOR, J. (1996) *Advanced Studies in Physical Education and Sport*. UK: Thomas Nelson & Sons Ltd.
- BEASHEL, P. & TAYLOR, J. (1997) *The World of Sport Examined*. UK: Thomas Nelson & Sons Ltd.
- BIZLEY, K. (1994) *Examining Physical Education*. Oxford; Heinemann Educational Publishers
- DAVIS, B. et al. (2000) *Physical Education and the Study of Sport*. UK: Harcourt Publishers Ltd.
- GALLIGAN, F. et al. (2000) *Advanced PE for Edexcel*. Oxford; Heinemann Educational Publishers
- McARDLE, W. et al. (2000) *Essentials of Exercise Physiology*. 2nd ed. Philadelphia: Lippincott Williams & Wilkins