

Introduction

As we start into planning for the new season we hope every athlete is assessing their game for areas they can improve to help find an edge on the opposition. No more so than in their strength and conditioning plans! Being strong, fit and powerful are hugely underrated athletic qualities in camogie players and only in the last number of years have coaches begun to embrace the benefits of developing such characteristics. Each month I will aim to provide an insight into various components of strength and conditioning in relation to camogie players and hopefully offer some important take home messages which might help your team's development going forward.

Periodisation

This is the time of year when coaches try to put together their yearly plan for the team, identifying when their big training windows are, the key games for the coming season and the areas of their teams performance they need to improve upon from the previous season. Simply put this is called a 'periodized' plan for your team. There is no universally agreed-upon approach to maximize strength gains in the athlete, but most coaches do agree that there needs to be a planning or periodization of the training stimuli. Periodization is a programed manipulation of several key training variables (rest, overall training volume, sets per workout, repetitions per set, intensity of training, and training frequency) throughout a training cycle. There are many variations of periodized plans but I hope to explain the most common ones below and give a brief summary of how we might merge our knowledge of such methods of camogie.

Linear Model

The linear training strategy involves the sequential development of one physical quality after another with each becoming more specific to the sports performance. The great advantage to using this model is the obvious progression of physical development, but the disadvantage is that it may not always match the physical



development requirements of the athlete throughout the year. For example you might be working on some endurance elements with your athletes while neglecting speed and power work. This obviously wouldn't lend itself to the maximizing the athlete's on-field performance during this training period. The obvious limitations with the linear model are such that it doesn't optimise the ability of the athlete to perform on a year round basis. This is something that needs to be kept in mind particularly as the camogie calendar is almost year round.

Daily undulating periodisation

Due to the limitations of the linear model an alternative was proposed, and later adapted, called daily undulating periodisation (DUP). This is where the training volume and intensity change on a daily or workout basis such that the athlete is not intending on just peaking their performance at a specific time of the year. The undulating model aims to offset the issues found in the linear model by training different characteristics within the same microcycle (short period of time) which may allow the intended athlete to perform near their peak for a greater length of time. Clearly this approach might be more suited for team sports or any discipline requiring a lengthy period of competitive action. Within the DUP hypertrophy (muscle size), strength and power are all trained within the same week with one session focusing on each specific area. The increased changes in volume and intensity allow fatigue to dissipate quicker and therefore increase performance for the next session or competitive outing.

Daily undulating periodisation has become the most desired method when dealing with teams during their in-season. This system allows for ease of manipulation of the program to suit the athletes schedule and specific goals at that time. During the season it is suggested that the weekly schedule could be made of one strength maintenance session and one power session with varying intensities. With this schedule it is clear that strength gains will be minimal if at all but the possibility might arise throughout the season where a week/ weeks off can be utilised to increase the workload and hence top up their strength levels.

Autoregulation

A rarer and more complex form of periodization is "autoregulation" of training. This type of periodization adjusts to the individual's adaptations on a session by session basis. This allows the athlete to increase strength at their own pace by designing the program to the athlete's individual strength or performance on a daily basis. As individuals respond to training stimuli at different rates, autoregulation may maximize the amount of strength gained over a training cycle.

Practical Conclusions

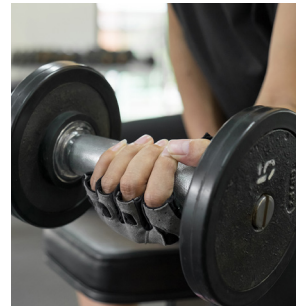
When it comes to novice athletes the question has been asked whether periodized programmes are necessary at all. After completing a needs analysis the relative emphasis placed on which approach to take should be influenced by the athlete's developmental status rather than their age or gender. In simple terms this means what ranges and load are actually being effective. At the lower end is the stimulus threshold needed to stimulate desired effects; at the upper end is a point of diminishing returns, beyond which further workload might yield no beneficial improvements and could possibly have detrimental effects with injury being the primary concern.

For coaches working with young teams I would advise not to get too bogged down worrying about periodisation. Just focus on technique, keep the loads relatively low so as to build some strength endurance first. Once technique is sound and the athletes have a strong base then you can gradually increase loads. For some athletes this will happen quicker than others so this is where the coach needs to be mindful. I would advise not to complicate things by tying camogie drills into strength work or vice versa. It will only dilute both and lead to frustration. If you don't have qualifications in strength and conditioning then ask someone to come in and give demonstrations or supervision on a regular basis.

It might cost a little but it will pay back many times over in the long run. Remember strength and conditioning is as important for girls as it is for men and arguably even more so due to their predisposition to certain injuries. Therefore it should be a year round approach and not something confined to the winter months only.

Key points to remember for coaches dealing with experienced camogie players

Athletes experienced in strength and conditioning will need a more individualised approach and therefore a qualified coach would be necessary. As stated the camogie calendar is almost year round now and therefore opportunities for a sustained



linear approach are not present. What I have seen work best for experienced girls is to break their training into blocks. Identify the weeks where gym work can be increased and focus on getting as much done here as is efficient. On game weeks you can drop this volume down to one session aimed at maintaining their strength and possibly a short power/plyometric session a few days before the game to prime them. Remember, after a week to 10 days your strength and consequently your power levels will begin to decrease so don't stop gym work altogether or you will undo a lot of your good work.

The question most coaches get asked is how strong is strong enough. This is an interesting topic of conversation and one which I will attempt to give my 2 cents on in later articles.

Mark Brennan

Carlovian Mark Brennan is owner of Southeast strength and conditioning. He has played both Hurling and football for Carlow for over 12 years. While studying for his degree Mark completed his athletic performance mentorship through Phoenix based company Athlete's Performance before going on to work with Harvard University's strength and conditioning department. Recently Mark has completed his Master's degree with his thesis focusing on game and position demands of inter county camogie using G.P.S.



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