

**Daniel Thompson 00:00:14**

Hello, welcome to the British Canoeing Coaching Podcast. Today's podcast episode is brought to you by the England Talent Programme. This is the final podcast of a 3-part Strength and Conditioning Series. In our previous episode, we discuss sport sampling, what it is and how it can be useful for developing athletes. We've also discussed the purpose of strength and conditioning where we address some concerns that people might have with strength and conditioning, as well as highlighting the benefits.

And we've begun to look at how strength and conditioning can fit within a training programme. My name is Daniel Thompson and I'm the talent operations coordinator for British Canoeing, joining myself with discussions on this topic area today. It's Ben Lewis, our Pathway Strength and Conditioning coordinator. Hi, Ben.

**Ben Lewis 00:01:04**

Hi Daniel, thanks for having me back for the third installment.

**Daniel Thompson 00:01:09**

Yeah, it's great to have you with us again. We've had similar extremely enjoyable discussions and I'm looking forward to catching up with you and going in a bit more detail about how we incorporate strength and conditioning into a training programme and what principles athletes and coaches should follow. So talking about what we discussed in a previous podcast episode about physical qualities, what sort of physical qualities would you be looking for paddlers to develop?

**Ben Lewis 00:01:40**

Yeah, that's a really good question to start off, and I think I think the way to look at it is trying to break it down into a few different areas. So building on some of the stuff we spoke previously, in terms of sport sampling and you trying to connect those neural pathways that we spoke about in episode two, I think. Athleticism always comes first and so trying to develop a well-coordinated athlete who's been exposed to multiple skills and can deploy these movement skills in lots of different settings, and this kind of baseline level of strength and a solid aerobic base to work with.

So that's like kind of our first port of call that are very kind of global athleticism focused approach. Then we start to have a look at and a bit more specificity. So can an athlete tolerate the training plan? So by that, can they get on the water, can they tolerate, you know, can we tolerate white water if it's a slalom athlete, can they tolerate the amount of volume performed on the flat if they're a sprint paddler.

Do they have healthy shoulders that can support the training load? Do they have good, you know, good musculature around the hips and in the lower back to kind of reduce kind of any aches and pains or niggles there.

And then finally, it's trying to have sort of one eye on the strength qualities that are going to underpin performance. So that kind of specific level of strength and power that's required to propel a boat forward and win races basically.

**Daniel Thompson 00:03:23**

Thanks for that. And going back to the first point and you mentioned the bit around movements and skills. So what sort of movements would you be looking for the paddlers to focus on?

**Ben Lewis 00:03:36**

So again, like linking movements, the global athleticism. So we're looking at body weight control and a lot of strength conditioning practitioners will have like a staple movement base that gets thrown around quite a lot. And so we would look at things from kind of, you know, some good pressing work, such as kind of, you know, different press up variations.

Can they control their body weight through a press up movement. Again, so that pulling variations that could be something like a bodyweight row and then that could be performed on, you know, some gymnastic rings or something like that. And we might look at different squat patterns and movement patterns that's called like a hinge movement, which, if you're not familiar with this, is trying to control kind of a neutral spine or a flat back and then load into your hips.

You might hear the terms of deadlift or something like that, which is basically a good position to pick something off the floor and with a good neutral spine. And then we look at, you know, some basic core strength and can someone hold good positions, can they kind of resist any unwanted movement and can they kind of hold the shapes that are required by things like planks or side planks that can they hold a good core position when they perform all the work that we've just spoken about? Those pressing, pulling squat patterns as well.

So making sure they can perform well across all those movements first, and then we might start to look at some more specific exercises. So for our sport, we might look at something like some bench press variations, we might look at some bench pull variations and pull up variations. And when we're talking about specific we're kind of talking specific as in those exercises allow us to increase the strength in the key muscles to underpin on water performance.

So, for example, a bench press uses a large portion of kind of a shoulder and the pec. We know that's integral to kind of keeping the shoulder in a good position to kind of keep force on the blade and the bench press allows us to kind of improve maximal strength in that area. So it's just try and sort of dial in when we talk about specific, that's what we mean by specific.

**Daniel Thompson 00:06:01**

And some of those movements and specific exercises that you just mentioned there. They are also referenced in our Athlete Development Framework and our What it Takes to Progress documents, which is on the digital library that those people that want to search that go on to the British Canoeing digital library and you type in the Athlete Development framework or What it Takes to Progress and and you can search for those types of exercises and movements that you just mentioned there Ben.

So moving on now, we talked a little bit about physical qualities and want to kind of delve deeper into how you develop those physical qualities and what does physical preparation programme actually look like for a developing athlete.

**Ben Lewis 00:06:48**

Yeah, Again, another good question, I think and if we start talking about maybe some key considerations, so the one term that people might have heard and it gets thrown around quite a lot is the term periodization, which is essentially it's performance planning or planning a way to achieve your intended outcome. And when we're talking about, you know, a pathway athlete or developmental athletes, it's not necessarily that we need a really complex periodised plan, but it's more a case of we should be looking to apply structure to what we're trying to achieve.

So that might look something more of the kind of we're going to focus on these types of qualities for this amount of times then we're going to move on and talk about these sorts of qualities and so on and so forth. So making sure you've got kind of structure to what you're doing and there is a sequential sort of loading and how those focuses kind of relate with each other.

That's a really important starting point. And then secondly, it's for me it's kind of making sure that we, you know, we chase technique first and we learn the movements and learning how to execute them well and with learning to kind of stabilize the body across those key patterns that we spoke about earlier.

And in order to achieve those, you know, it's high volumes of work, those movements are skills. So you need to be exposed to them for number control. And so it is a high volume exposure that's going to develop some of those kind of key skill sets that we've spoken about. And then when we're looking at strength, it's not sort of jumping straight to we've got to have the heaviest weight on the bar.

We've got to, you know, we're going to do a one repetition or three repetition, but we've got to be lifting really heavy things. And when you're developing, you know, you can get strong from moderate ranges. So you can get strong from lifting, you know, 8 to 10 reps for a developing athlete it doesn't have to be, you know, that kind of real hard, heavy, high, intense weights that, you know, you can under a bar and could potentially be quite risky.

It doesn't have to be that. If you get stronger in kind of an eight rep load, you know ultimately that it's going to be improving your strength. So you can certainly use that kind of moderate rep range to a it's quite sort of like a happy medium. You can learn that there's enough volume that you can learn the skill before.

So the right amount of volume where the intensity will be building some strength as well. So I think that's an important kind of focus point. And then, you know, as the training age increases and as the athletes mature and, you know, start moving through that pathway, then you can start to target slightly higher intensity work through those developmental processes.

**Daniel Thompson 00:09:45**

That's great, a good list there. So also what about sessions structure and such is like the number of sessions or number of exercises or is or is a particular exercise order that someone needs to follow. And what about those type of considerations as well?

**Ben Lewis 00:10:07**

Yeah, that's the big question and it's a difficult one to answer because there's so many different ways that you can go about writing a training programme. And you know, we could be here for hours if we try and talk every, every different way of doing it, the exact way to do it, to turn someone into an athlete. I suppose that the best way to approach this conversation is maybe we kind of just go through some basic rules of thumb that you can kind of use to anchor your programme description.

So if you're going to go some of the things that you spoke about. So we look at maybe number of sessions, I think it comes down to how much time you've got. And we know the athletes in the pathway that it's not just the conditioning that they're looking at. They've got time on the water. They might be involved in other sports.

Obviously, they've got school education on top of that. And you know, it's going to be parent dependent as well. Can they can they get people from A to B? So it does come down sort of how much time you've got. And it's great if someone can kind of get 2 strength and conditioning sessions in a week and potentially three if you've got more time and you know, the duration of those sessions, a typical session tends to last for around an hour as a real sort of basic approach to it.

So you can come in, get warmed up, go through your session, cool down. The good thing is that you could get it done in an hour is something that you can you can look to work towards. And if you don't have the luxury of time, then it might be a case of, I think we spoke about this on some of the other podcasts, about maybe breaking some of that physical work into a good solid warmup that you can do.

So prior to taking part in sporting activity. You know, you're going to do x amount of exercises and you're going to go through them and you do that every time before you actually take part in your. That adds up over time and that becomes your training session. So yeah, I think if someone can perform 2 to 3 sessions a week. Brilliant. If not, find creative ways of doing it.

And obviously as an athlete progresses and, you know, the training programme becomes more intense or more specific then that will probably change. But from a starting point. And that's something that we can we can aim towards in terms of number of exercises within a session, there's no set rule. It all comes down to what your intended outcome is.

As a guideline, we would tend to kind of look at maybe 2 to 3 kind of key lifts. And that's kind of that's what you really sort of want to be focusing your time and that leaks into what you're trying to achieve. And then following on from that, you might have a few accessory exercises that are geared around supporting your main focus. So you don't have to be in doing every exercise under the sun.

It's just dialling it down into what your main focus, couple of exercises are and then some accessory stuff around that. When we're talking about athletes in the pathway, we tend to look at total body exposure. So multiple patterns of movement. So if we for example, within a session you might have a pressing movement, a pulling movement and squatting movement, a hinge movement and a core exercise.

And that would be sort of the main bulk of the session. And that approach is great if you have got limited time because you can kind of get a focus on each area. And then as the athlete matures and the training intensity starts to become harder, then you might start to separate training out a little bit more to protect that outcome, such as if you know that pulling or pressing strength is a really

primary focus and we really need to spend some time on one, we might try and protect that and to make sure you're getting the outcome that you want.

And then if we look at exercise order, I think that question gets asked quite a lot in terms of what where do things go? And, you know, we'd always recommend you start with your biggest compound exercise. That's the exercise that's going to be the most fatiguing. It might be the most complex and always start with that and that will probably be your focus exercise because it doesn't make sense that your exercise that is a big exercise, most complex exercise you don't want to do it at the end whilst you're tired. And we always kind of prioritize that towards the beginning of the session. So they're kind of some key considerations around the baseline of the programme really.

**Daniel Thompson 00:14:43**

Yeah, thanks for that. There's a number of considerations that you have to think about that, and I suppose that would vary depending on the type of athlete you're working with or the groups. If you perhaps work with an athlete that's relatively novice in strength and conditioning, that's compared to an athlete that has probably had a number of years and have followed a strength and conditioning programme. It might look a little bit different for how you would do those type of things. And for those type of athletes.

**Ben Lewis 00:15:17**

Yeah, definitely. Like context is king and you always adapt the principles to what's in front of you to make sure that each person's getting something out of that exercise. So for example, you can use a squat with a, you know, elite level senior athlete and you can use a squat with a junior developmental athlete. How you do it will be slightly different. Movements are the same, but the outcomes are slightly different and it always comes down to context.

**Daniel Thompson 00:15:44**

Yeah, great. And we talked a little bit around the increase in load and often a fault for coaches and paddlers is that they want to progress as quickly as possible and they want to do these weight based exercises or increase their load, but what are the considerations for when you're actually progressing in your physical preparation programme?

**Ben Lewis 00:16:10**

Yeah, again, it's I think the difficulty we have within the realms of strength is that people see progress as just pulling weight on the bar and you either make it or you don't. And so there is that kind of, you know, that voice at the back of your head like I need to put more weight on the bar, I need to put more weight on the bar.

And I think it's dialling it down into well, actually it's the movement under the bar, which is going to develop the athleticism required to be successful in your chosen sport. So if we chase the load, you can compromise the technical execution, so you can compromise how the exercise is performed.

And you know, we use strength as a means to an end to the end being on water performance, therefore how the exercise is performed we either have a positive or negative transfer.

You know, we're not weightlifting, we're not powerlifting where the sport is to lift the heaviest weight possible and that dictates success. We're looking at, you know, how do we use strength to support someone on the water to. Whether that's to execute a certain technique, whether that's to improve their efficiency or minimize the fatigue or keep that technical execution from the start of a race to the end of the race.

That's what we're looking to use it for. We're looking to its, you know, to propel the boat forwards and therefore how it's performed will have a massive impact. So if you lose a shoulder position, then the shoulder is not can be as stable therefore not using the stabilizer muscles with big strength muscles, which that's what we're looking to develop on the water.

So it really is movement under load, which we need to be chasing rather than just trying to put weight on the bar.

**Daniel Thompson 00:17:55**

Yeah, that's a good point. And think it's very common for a youngster looking across maybe seeing what their peer's lifting and just want to be doing that, but actually following those principles that you just mentioned there is key really, rather than copying what their friend is doing for instance.

**Ben Lewis 00:18:15**

Yeah and it's you know, having, having a training partner or having a training group is really beneficial. You know, it helps it helps the motivation. It's really a positive thing, but it is making sure that you focus on you and where you're at and what you can do. And, you know, being strong is a skill.

It's not just about coming to the gym putting the heaviest weight on the bar and then trying to lift it, because if you if you do that session one set one on bench press, then you've got nowhere to go. You've got no wriggle room. Whereas if you could come in, you know, if you could solidly lift and lift the weight technically well within, say, bandwidths of sort of 8 to 10 reps and if you start out listing it for eight reps and then once you can then achieve 10 reps with that load, you know, something has happened I've adapted to this exercise with that load.

Ok, maybe we'll have a slight increment on the bar and then lift it again. Once you can lift that with ten reps, then you can increase again. So you've got that sort of bandwidth that you can play around with and that's you're much more likely to see progress with that approach. As opposed to just kind of fingers crossed I'm going to put that weight on the bar because I lifted this weight last week. It's just trying to be a bit more tactful with how you how you're applying that progressive loading.

**Daniel Thompson 00:19:41**

Absolutely. Yeah. That's good point there. I'm going to summarize and bring this podcast to a close very shortly but I've got one final question for you. From what we discussed today in today's podcast episode and also the previous episodes that what are your main take home training principles?

**Ben Lewis 00:20:04**

It's a big question to end on! I think to kind of like summarize the last three conversations, that's why I think that the main thing is for a developmental athlete or someone who is starting out in that journey and make it something you enjoy doing. If we're talking about sport sampling, if there are certain things that you enjoy doing, that you know you're going to get certain athletic skills from and do them.

You want to make sure it's something that you enjoy and then if you enjoy it, be consistent with it. If you're consistent with it, you progressively develop in the area. So definitely, definitely make sure the enjoyment is within that programme. Second, is movement competency and motor control, so linking into the previous stuff we've spoken about is exposure to lots of different patterns of movement and learning how to control your body in different ways.

Your body's going to learn a lot and it's going to connect those neural pathways and it's, you know, it's definitely the first port of call for that general qualities and movement competency first before we start tapping into some of those specific qualities. And when we are looking at specific qualities and it's making sure that we, you know, we progressively load the muscles that are going to impact on water performance.

**Daniel Thompson 00:21:27**

Thanks, some great final take home training principles for the coaches and paddlers to follow there. And so, Ben, it's been another fantastic and fascinating and insightful podcast episode today. So I'm really very enjoyed chatting with you in this podcast episode and our previous episodes. So thanks a lot Ben

**Ben Lewis 00:21:49**

Yeah, and thank you very much. It's been really enjoyable to talk around some of these topics. Who knows maybe we will be back soon to discuss some more.

**Daniel Thompson 00:21:59**

Absolutely. I hope so. So this podcast is available on the British Canoeing Awarding Body Page and also on our talent parent programme web page on the podcast section, of the British Canoeing website. It's also available to listen to on Spotify, Podbean or Apple Podcasts channels just following our podcast name British Canoeing Coaching. Thank you for listening.