

LEAVING SOMETHING FOR LATER

Are we maximising young endurance athletes too early rather than developing them?

A reflective article for parents, athletes and coaches

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There is a question I keep coming back to when I watch young endurance athletes train and compete:

How good do they actually need to be right now?

It sounds like a strange question.

Surely our role as coaches is to help athletes improve. To help them run faster. To prepare them to perform. To give them the best possible opportunity to fulfil their potential.

And young athletes should absolutely be challenged. Training should progressively become more demanding. Competition matters. Improving matters.

But perhaps there is an important distinction between helping a young athlete improve and trying to maximise everything they can currently produce.

Those two things are not always the same.

In endurance sport, performance can often be improved relatively quickly.

Increase the training volume.

Add another session.

Make the intervals harder.

Race more frequently.

Become more disciplined around recovery, nutrition and preparation.

For some young athletes, those changes will produce faster performances.

But that leaves us with a different question.

Just because something improves performance now, does that automatically make it good long-term development?

And perhaps even more importantly:

What are we leaving available for later?

The temptation to maximise

Endurance sport makes progress incredibly visible.

Times come down. Rankings improve. Athletes move through race fields. Championships are reached. Teams are selected. Recognition follows.

It creates a powerful feedback loop.

The athlete is improving, so the programme must be working. The coach feels successful. Parents can see progress. The athlete receives recognition and confidence.

So why wouldn't we keep doing more?

Because a young endurance athlete isn't simply a smaller adult endurance athlete.

Adolescence itself is a period of considerable change. The International Olympic Committee describes adolescent development as non-linear and asynchronous: physical, physiological, psychological and social development do not necessarily occur at the same rate or at the same time.[1]

That matters.

The athlete in front of us is not simply developing their aerobic system.

They are growing. They are physically maturing. They are learning. Their identity is developing. Their relationship with sport is developing. Their ability to cope with success, failure and expectations is developing.

And hopefully, they have many years ahead of them in which their training can continue to evolve.

So perhaps one of the most important questions in youth endurance coaching isn't:

What more can this athlete tolerate?

It might be:

What do they actually need at this stage of their development?

There is quite a difference between those two questions.

Performance today isn't potential tomorrow

One of the challenges within youth endurance sport is that current performance can easily become confused with future potential.

The young athlete winning races naturally attracts attention.

They may be exceptionally talented. But they might also be more physically mature. They might already be training significantly more. They may currently respond particularly well to endurance training. Or they might simply be further along their developmental journey.

Another athlete of exactly the same chronological age may currently be some distance behind.

That doesn't necessarily tell us where either athlete will eventually finish.

Research within athletics gives us an interesting reminder of this.

A 2024 study examined the performance pathways of 4,678 international middle- and long-distance athletes. The researchers compared athletes who had reached the world's top 50 at U18 level with senior performances.

Only around 19% of males and 21% of females who were top U18 performers made the equivalent transition into the senior top group.[2]

That doesn't mean junior success is irrelevant. Far from it. Being an excellent young athlete is clearly something worth celebrating.

But it reminds us that:

Being ahead at 16 isn't the same thing as being ahead at 26.

Development is messy. Athletes grow at different rates. They respond differently to training. Their circumstances change. Their motivation changes. Injury interrupts some journeys. Others simply require more time.

Yet sporting systems can understandably become attracted to the athlete who becomes good first.

Selections are made. Squads are formed. Opportunities arrive. Expectations increase.

And eventually the question surrounding that athlete can quietly shift from:

How should we develop them?

to:

How good can we make them this year?

That subtle shift matters.

More training isn't always more development

There is something seductive about training numbers.

Weekly mileage. Number of sessions. Interval volume. Long-run distance. Gym sessions. Race frequency.

They are easily measured and compared, which can make them feel like evidence of a serious programme.

But development is not simply the accumulation of training.

A 14-year-old running more kilometres than everybody else isn't automatically receiving better development. A young athlete completing sessions that resemble those of a senior international athlete isn't automatically more advanced.

And an athlete being capable of coping with a particular workload does not automatically mean they need that workload.

There is an important distinction between capacity and necessity.

An athlete may physically be able to run six days each week. But do they need to?

They may be capable of completing another interval. But what is that interval developing?

They might be able to race three weekends in succession. But what is the developmental purpose?

Research examining the long-term development of elite and world-class endurance athletes provides some useful context.

A 2023 scoping review examined studies tracking athletes who eventually reached elite international or world-class endurance performance. Across the available evidence, training volume generally increased non-linearly across successive years before eventually plateauing.[3]

In other words, the athletes who ultimately reached very high levels generally had somewhere for training to progress.

The same review also highlighted something important for all of us involved in talent development: there were only 17 studies involving 109 athletes that met the researchers' criteria.

Our evidence about the precise long-term training pathways that create world-class endurance athletes is actually quite limited.[3]

That should probably create some humility.

We don't possess a perfect formula.

So rather than asking how closely a 14-year-old's training resembles an elite senior programme, perhaps we should ask whether their current training is providing the stimulus they currently require.

Young athletes will often do what coaches ask them to do.

Sometimes our responsibility isn't to discover how much training they can survive. It is to decide how much is actually useful.

Progression is a training resource

This is perhaps the idea I keep returning to most:

Progression itself is a training resource.

Imagine an athlete has another ten or fifteen years in which their training could develop.

Across that journey we might progressively increase training frequency, weekly volume, long-run duration, threshold work, strength training, competition specificity and eventually the overall professionalism surrounding their sport.

We don't need to use everything immediately.

If an athlete can continue improving from four purposeful running sessions each week, why must we immediately move to five?

If a relatively simple interval session creates the stimulus we need, why make it harder?

If an athlete's aerobic fitness, speed, coordination and confidence are all developing, do we need to increase mileage simply because somebody else is doing more?

Every training progression we introduce gives the athlete a new stimulus. But once we have introduced it, we cannot introduce it for the first time again.

That doesn't mean artificially holding athletes back. It means recognising that there can be value in allowing training to grow with the athlete.

Long-term athletic-development guidance has consistently advocated an individualised, holistic and child-centred approach rather than simply applying adult training practices to younger athletes.[4]

So perhaps:

Leaving something for later isn't a lack of ambition. It can be an investment in future ambition.

Develop the athlete before maximising the endurance athlete

Young endurance athletes obviously need to develop endurance.

Running matters. Aerobic development matters. Consistency matters.

But young endurance athletes need far more than the ability to accumulate kilometres.

They need movement skills. Speed. Coordination. Strength. Robustness. Confidence. Race craft. The ability to change pace. The ability to run uphill, downhill and across different surfaces. The ability to understand effort.

And increasingly, the ability to understand themselves.

What does easy actually feel like?

What does controlled feel like?

When am I working hard?

When am I pushing too hard?

Can I change my race plan when circumstances change?

What happens when somebody goes past me?

Can I have a bad race without believing I am suddenly a bad athlete?

Can I make decisions without continually waiting for a coach to tell me what to do?

Those qualities might not immediately produce another five places on a national ranking list.

But they might help create a much more capable athlete several years later.

Long-term athletic-development research emphasises developing broad athletic qualities in young people through an individualised approach rather than seeing development purely through sport-specific performance.[4]

Sometimes in our desire to develop the endurance athlete, we can forget to develop the athlete.

Training hard isn't the problem

This distinction is important.

None of this is an argument for making youth endurance training easy.

Young athletes should sometimes train hard. They should experience challenging sessions. They should learn to tolerate discomfort. They should race. They should have opportunities to find their limits.

Progress requires stimulus.

The question is about dose, timing and purpose.

The 2021 Youth Running Consensus Statement makes this point particularly well. Rather than giving simplistic universal mileage limits based purely on age, it emphasises considering a young runner's physical, psychological, emotional, social and cognitive readiness when making training and competition decisions.[5]

That's considerably more complex than saying: You're 14, therefore you should run this many miles.

Two athletes of the same age can have very different training histories.

One may have been running consistently for four years. Another may have started four months ago.

One might be physically mature. Another might be experiencing rapid growth.

One might cope brilliantly with organised training. Another might already have substantial sporting, school and social demands elsewhere.

Good development cannot simply be copied and pasted.

The goal isn't to protect young athletes from training. It is to prepare them progressively for the training they may eventually need.

The danger of professionalising childhood

Another question worth asking is how quickly youth sport should begin to resemble elite senior sport.

GPS watches. Heart-rate monitoring. Detailed periodised plans. Recovery scores. Strength programmes. Nutrition strategies. Mobility routines. Race analysis. Performance dashboards.

None of those things are inherently bad.

Used appropriately, many are excellent tools.

The question is whether the level of detail matches the athlete's stage of development.

There is a danger that we create young athletes who become extremely good at following programmes, but less good at understanding themselves.

They know the prescribed pace but not the appropriate effort.

They know their watch says their recovery is poor but don't know whether they actually feel tired.

They can tell you exactly what today's session says but not why they are doing it.

Perhaps development should gradually transfer ownership from the adult towards the athlete.

Technology can support that process. It shouldn't replace it.

There should still be space to run because running feels good. To race without everything afterwards needing to be analysed. To have a poor session without it becoming a problem requiring immediate intervention.

And perhaps even to be a young person who happens to be very good at running, rather than someone whose entire identity has already become being a runner.

When more begins to cost something

There is another reason to be thoughtful about continually increasing training.

Young athletes need recovery too.

The American Academy of Pediatrics' 2024 clinical report on overuse injuries, overtraining and burnout recognises that properly designed progressive training can create valuable physiological adaptations.

The concern isn't training itself.

It is an imbalance between training stress and the athlete's ability to recover from it.[6]

Repeated stress without sufficient recovery can contribute to overuse injury, while prolonged excessive training without adequate recovery can contribute to overtraining and poorer wellbeing.[6]

That becomes particularly relevant in endurance sport.

Because running can appear simple.

Another ten minutes. Another kilometre. Another session.

Each individual increase can look insignificant.

But athletes don't experience training in isolated boxes.

They experience the totality of their lives.

Running. Other sports. PE. School. Exams. Sleep. Travel. Family life. Growth. Relationships.

Everything counts.

So when a young athlete begins struggling, the answer isn't always to look exclusively at their running programme.

We need to look at the young person.

What about specialisation?

This area requires some nuance.

An athlete wanting to become very good at distance running will eventually need to spend considerable time running.

Sport-specific practice matters.

But there is evidence suggesting that high levels of early sport specialisation can carry increased injury risk.

A systematic review and meta-analysis involving young athletes found that highly specialised athletes had a greater risk of overuse injury than athletes with low levels of specialisation.[7]

More recent systematic-review evidence has continued to find an association between greater youth sport specialisation and injury risk, although researchers emphasise that sporting context matters and the evidence remains heterogeneous.

That does not mean every young distance runner needs to play five different sports.

Nor does it mean that running year-round is automatically harmful.

It means we should be cautious about assuming that narrowing a young athlete's sporting world as early as possible is necessarily the quickest route towards future success.

Other activities can provide different movement experiences. Strength. Coordination. Agility. Social environments. And sometimes simply a psychological break from always being the endurance athlete.

There may be value in young athletes having more than one way to move.

What are we actually trying to win?

Youth sport involves competition.

And competition matters.

Young athletes should learn to race. They should experience nerves. Pressure. Success. Disappointment. Tactical mistakes. Unexpected breakthroughs.

They should want to perform well.

Winning can be exciting and meaningful.

We don't need to pretend results don't matter.

But adults responsible for development have to maintain a wider perspective.

A coach might be able to make an athlete faster this season by significantly increasing training.

The athlete might have a better chance of winning a particular championship if they race more frequently.

Earlier specialisation might provide a temporary performance advantage in some circumstances.

But if the athlete is already improving, perhaps sometimes doing more simply brings tomorrow's improvement forward.

That is an uncomfortable possibility.

Because we might congratulate ourselves for producing at 15 an improvement that could have appeared naturally at 17 while using substantially less training.

The real question in talent development shouldn't simply be:

How quickly can we make this athlete good?

It should include:

How do we help this athlete continue getting better?

Those are not necessarily identical challenges.

Parents feel the pressure too

It isn't only coaches who experience this.

Parents are surrounded by comparison.

Another athlete is running more. Another athlete has started strength training. Someone has joined another squad. Someone is receiving private coaching. Someone is travelling to national races. Someone has a sponsorship. Someone has just posted their week's training on Strava.

Suddenly patience can look like inactivity.

And doing enough can start to feel like doing too little.

That pressure is understandable.

Parents want to give their children opportunities. Coaches want athletes to progress. Athletes don't want to be left behind.

But somebody else's programme is not evidence that your athlete needs the same programme.

Sometimes one of the strongest decisions adults can make is:

They're healthy. They're enjoying it. They're learning. They're progressing. We don't need to add anything yet.

That can be surprisingly difficult in performance sport.

Coaching often rewards intervention. We like adjusting sessions. Changing programmes. Adding training. Solving problems.

Sometimes good coaching is recognising there isn't currently a problem to solve.

Maybe we need a different scorecard

If our only measure of youth development is race performance, then maximising race performance early becomes perfectly logical.

Maybe our scorecard needs to be broader.

Of course we can look at whether the athlete is getting faster.

But we might also ask whether they are becoming more physically robust.

Whether they understand effort better than they did a year ago.

Whether they are becoming more independent.

Whether they can adapt when a session doesn't go perfectly.

Whether they are developing speed as well as endurance.

Whether they can race tactically rather than simply follow a pace.

Whether they are developing friendships within the sport.

Whether they can deal with disappointment.

Whether they remain curious.

Whether they still want to train.

Whether they are improving without continually requiring large increases in workload.

And perhaps one of the most important questions of all:

Do they still want to come back next year?

Those things are harder to display on a ranking list. But they might tell us considerably more about whether development is actually happening.

Coaching two athletes at once

Perhaps talent development asks us to coach two athletes simultaneously.

The athlete standing in front of us today.

And:

The athlete they might become several years from now.

Today's athlete needs challenge. They need enjoyment. Competition. Belonging. Opportunities. And the satisfaction of seeing themselves improve.

But the future athlete needs something from us as well.

They need options. They need training progressions that still exist. They need physical capacity that can continue to grow. They need psychological energy. They need a body prepared to tolerate greater training when greater training genuinely becomes necessary.

And they need a relationship with sport that has survived adolescence.

Good coaching somehow has to serve both athletes.

Leaving something for later

None of this means deliberately slowing young athletes down.

It doesn't mean talented young runners should avoid serious training.

It doesn't mean ambition should disappear from youth sport.

And it certainly doesn't mean young athletes shouldn't work hard.

It means being thoughtful about when, why and how we increase what we ask from them.

Perhaps before adding another session we should ask:

What are we trying to develop?

Before increasing mileage:

What problem are we solving?

Before making training more specific:

Does the athlete need this stimulus yet?

Before chasing another performance:

Is this part of their development, or are we simply trying to maximise today?

And perhaps before worrying that another athlete is currently training more:

Is our athlete still progressing?

If they are healthy, enjoying their sport, learning, being appropriately challenged and continuing to improve, perhaps sometimes the answer is remarkably simple.

Keep going. There is time.

Because talent development shouldn't simply be about discovering how quickly we can reach a young athlete's current ceiling.

It should be about creating the conditions for that ceiling to continue rising.

And sometimes one of the most valuable things we can give a talented young endurance athlete is something they might not appreciate until much later:

Somewhere still to go.

A note on the evidence

Research into long-term endurance-athlete development is still developing. It would therefore be misleading to suggest there is one proven training pathway that guarantees future elite performance, or that doing less training as a young athlete automatically creates greater senior success.

The research included here instead supports several broader principles: young athletes develop at different rates; youth performance does not perfectly predict senior performance; training should be progressive and individualised; workload and recovery need to be balanced; and development should consider the whole young person rather than performance alone.

That uncertainty is perhaps another reason for adults working in youth sport to remain curious rather than convinced that we already know the answer.

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