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October 14

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reaction timesposted by: *superhuman*[reply](#)Posted Sunday, Sep 7 at 3:43 PM
Sun, Sep 7 at 12:43:18 PDT

i was watching drag racing on espn2 since i was really bored and noticed that their reaction times are routinely under .1 seconds. that seems to be because anticipation is part of the game. they have a standardized starting system and it is the same each time unlike starters in track that are inconsistant and hold people of different lengths of time.

how long have we had the .1 second rule?

what does everyone think of the rule?

of course, changing it now would make it easier to set new records, but it does seem kind of silly

There are 190 replies to this message.

Re: reaction times*louise tricard*[reply](#)Posted Sunday, Sep 7 at 3:56 PM
Sun, Sep 7 at 12:56:53 PDT

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>they have a standardized starting system and it

>is the same each time unlike starters in track

>that are inconsistant and hold people of

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>had the .1 second rule?

what does everyone

>think of the rule?

of course, changing it now

>would make it easier to set new records, but it

>does seem kind of silly

funny you mention this...we are looking into it...yeah...anyone over .1 in drag racing might as well hang it up!

we want the blocks set to 0.00...

Re: reaction timesposted by: *miles*[reply](#)Posted Sunday, Sep 7 at 3:58 PM
Sun, Sep 7 at 12:58:05 PDT

Why don't they just make a metal gate like race horses use. That way if you false start all you'll get is a headache from smashing your forehead into the gate.

Re: reaction times*Ben*[reply](#)Posted Sunday, Sep 7 at 5:49 PM
Sun, Sep 7 at 02:49:52 PDT

All this sounds like really good ideas. I don't think anticipating the start is a bad thing, so long as you get it right and not break. Taking the starter out and having some sort of countdown (they do this in track cycling) would seem like a logical idea. Everything is standardised and everyone has the saem chance and no excuses.complaints if someone breaks.

As far as meaning that comparing old records versus the new ones that may be set, well advances in tracks and other technology have always meant that there will be some sort of improvement other then human. The introduction of electronic timing saw differences.

I say keep running with this idea nad concept.

(Oh and love the idea of drop gates, brings back the animal component - yerrrrr!)

Re: reaction times

Posted Sunday, Sep 7 at 6:28 PM

<p>posted by: tandfman</p>	<input type="button" value="reply"/>	<p>Sun, Sep 7 at 03:28:31 PDT</p>
<p>There may be something to the suggestion that we use a standard countdown, or starting gates, or something similar.</p> <p>But let's understand two things. First, this is not what the rules of the sport have always contemplated. Whether Louise T, John Drummond, or anyone else likes it or not, the idea has always been that you react to the gun, you don't try to anticipate it. That's why the .1 delay is in the rules--based on lots of data showing that anything faster involves some anticipation factor. And that's why high school and college sprinters in the US are now taught not to even think about trying to anticipate.</p> <p>This is not to say that there isn't some merit to re-thinking the basic principle. Just let's recognize that it would be a different event.</p> <p>Another aspect of some of these proposals is that if it's too high tech, it will be workable only at the highest levels of the sport--the kind of meets that now use things like blocks with false start detection mechanisms. But unlike those blocks, which are designed to facilitate officiating, devices like starting gates, or electronic count-down devices, would necessarily change the nature of the event. And that would mean that sprinting at 99% of the meets of the world would be essentially different from what it is at major international events. Having such a difference in an important element of the competition at different levels is generally not a good idea.</p>		
<p>Re: reaction times louise tricard</p>	<input type="button" value="reply"/>	<p>Posted Sunday, Sep 7 at 6:40 PM Sun, Sep 7 at 03:40:12 PDT</p>
<p>>That's >why the .1 delay is in the rules--based on lots >of data showing that anything faster involves >some anticipation factor.</p> <p>where's the lots of data...someone else on another thread was going to produce it...but has yet to do so...</p>		
<p>Re: reaction times <i>Realist</i></p>	<input type="button" value="reply"/>	<p>Posted Sunday, Sep 7 at 6:53 PM Sun, Sep 7 at 03:53:40 PDT</p>
<p>I don't know about whatever research the IAAF (or whomever) used to come up w/ the 0.100 threshold, but in looking just at Paris results, strikes me they were very GENEROUS.</p> <p>Reaction times in the men's 100 final: 0.148, 0.152, 0.112, 0.145, 0.140, 0.133, 0.132, 0.164</p> <p>Semi I: 0.142, 0.197, 0.172, 0.227, 0.116, 0.168, 0.104, 0.172</p> <p>Semi II: 0.147, 0.154, 0.158, 0.152, 0.156, 0.157, 0.168, 0.129, 0.230</p>		
<p>Re: reaction times louise tricard</p>	<input type="button" value="reply"/>	<p>Posted Sunday, Sep 7 at 7:38 PM Sun, Sep 7 at 04:38:43 PDT</p>
<p>GENEROUS.</p> <p>we're not talking "generous"...produce the scientific testing..maybe there is some that we are not aware of...</p>		
<p>Re: reaction times <i>just wondering</i></p>	<input type="button" value="reply"/>	<p>Posted Sunday, Sep 7 at 7:49 PM Sun, Sep 7 at 04:49:01 PDT</p>
<p>Since when is overwhelming empirical evidence insufficient to calibrate the baseline. If someone reacts faster than .1, then something anomalous occurred. There may be a 1 in a 1000 chance a reaction is legitimately under .1, but that's why the IAAF has wisely gone to the 'second fs' rule, unlike the HS and NCAA's one and you're out.</p>		
<p>Re: reaction times <i>posted by: DTG</i></p>	<input type="button" value="reply"/>	<p>Posted Sunday, Sep 7 at 8:12 PM Sun, Sep 7 at 05:12:43 PDT</p>
<p>where's >the lots of data...someone else on another thread >was going to produce it...but has yet to do so...</p> <p>Louise - I haven't forgotten the task. It's been frustrating, but illuminating. It's taking us far earlier than the 90's and will probably take us to Germany. My inquiries to the IAAF have not been answered, probably because I'm just Joe Blow to them, and they may be suspicious of my intentions. I'll let you know. Thanks</p>		

Re: reaction timesposted by: [jhc68](#)[reply](#)Posted Sunday, Sep 7 at 8:30 PM
Sun, Sep 7 at 05:30:55 PDT

C'mon, folks... who is kidding whom? Does anyone on earth think that sprinters at any level DO NOT anticipate the gun or that they could be trained not to do so? To think that 8 people would get into a set position without at least a sub-conscious mental set that anticipates the start is absurd. Just the act of coming up to the set position puts runners into an anticipatory emotional situation and into a physical posture that cannot be maintained for very long. How many times have we all seen meets with lots of false starts and blamed a starter who was either erratic or held the runners too long? "Bad starter," we all have said. People never blame the runners who are held too long.

If we want to eliminate anticipation then every race starter ought to hold runners at the set position for a completely random period of time. Does a runner who breaks at .1001 sec simply have great reactions while a runner who leaves at .0999 sec is a cheater? Anticipation is a skill, an art, a knack that successful sprinters (and athletes in just about every other sport master) and the IAAF will never be able to manufacture a set of rules that change human nature.

If we want to take away that element of the sport then nevermind starting gates or disqualifications, the answer is present in the data we already collect: just subtract the reaction time from the runner's finish time and award the win to the runner who travels the distance fastest from his or her individual start to the finish line. Thus, the numbers tell the winner rather than the finish order. We have that technical capability (just like we could now measure horizontal jumps from take off point to landing and eliminate all that worry about hitting the board and making a mark on the plasticine, which, by the way, I think is a much better idea) but in the sprints, at least, relying on the actual elapsed time rather than the finish order would take all the fun out of it, think what a disaster it would be for competitors and specatators if the first place finisher were relegated to, say, fifth place after subtracting reaction times!!!

In drag racing, stats are kept on both car's elapsed times and, often, the second place car travels faster than the first if reaction time is discounted, but the car that reaches the finish line first is still the winner, period. Seems to me that a similar policy is best for human sprinting... just DQ people who leave before the gun. The reaction time rules are a fight against the anticipatory realities of human nature.

Re: reaction timesposted by: [gh](#) ([e. garry hill](#))[reply](#)Posted Sunday, Sep 7 at 8:31 PM
Sun, Sep 7 at 05:31:19 PDT

While I can't cite chapter and verse, I'm confident in my recall that the IAAF engaged in (or commissioned) some real research before setting the 0.1 limit.

I would also note that for more empirical evidence on the subject, the original study on hand vs. auto in the early '70s led to the conclusion that timers with handheld stopwatches had, on average, an 0.14 reaction time. So 0.10 would indeed appear to be "generous," as a previous poster posited.

And before you say that timers aren't athletes, I would cite a an article I once read about the old Soviet sports machine, and reaction-testing was one of the things they did for everybody. Wanna guess who consistently showed the best reactions? Chess players! This leads me to believe it's not something that's directly related to athletic ability, and no amount of training is going to change it.

One last thing: when the concept of false-start blocks first came out, wasn't the limit set at 0.12? Strikes me that it was, and wasn't creating any particular rash of false starts, but the IAAF took the precaution of cutting off a couple more 100ths, just to be sure that any outliers weren't unfairly nabbed.

Re: reaction times[louise tricard](#)[reply](#)Posted Sunday, Sep 7 at 8:33 PM
Sun, Sep 7 at 05:33:01 PDT

>
where's
>the lots of data...someone else
>e on another thread
>was going to produce
>it...but has yet to do so...

My inquiries to the IAAF have not
>been answered,

to whom are you writing?

Re: reaction timesposted by: [JRM](#)[reply](#)Posted Sunday, Sep 7 at 11:35 PM
Sun, Sep 7 at 08:35:12 PDT

>GENEROUS.
>
>we're not talking "generous"...produce the >scientific testing..maybe there is some that we >are not aware of..

Louise,

Physiological and psychological studies have consistently shown that auditory reaction times (for college-aged humans) are

between 0.14-0.16s. This is the peak -- they are slower for younger ages, and they get slower as age progresses. As GH has suggested, there is only evidence to suggest that 0.10s is generous.

The onus is not on science (or the IAAF) to presume a < 0.10s reaction is acceptable because the particular sample space of the population has not been explicitly tested.

Until someone can show (conclusively!) otherwise, and give statistical/quantitative evidence to support the claim, then a 0.100s reaction time is **more** than generous, and anything faster is pure anticipation. Cause/effect can't possibly be justified.

Re: reaction times

Ben

reply

Posted Monday, Sep 8 at 3:20 AM
Mon, Sep 8 at 12:20:58 PDT

I tracked down these references from

Farrow, D and Kemp, J. 2003. Run like you stole something - The Science behind the score line. Allen and Unwin: Sydney (www.allenandunwin.com)

I've copied them as written in the bibliography:

Bruggemann, GP and Glad, B 1988, 'Biomechanics of sprint events - Reaction time'. Scientific Research Project at the games of the XXIVth Olympiad - Seoul 1988. Final Report - Time Analysis of the Sprint and Hurdle events, pp 26-27. International Athletic Foundation.

Jongsma, DM, Elliott, D & Lee, TD 1987, 'Experience and set in the running sprint start', Perceptual and Motor Skills, 64, 547-550

Re: reaction times

[louise tricard](#)

reply

Posted Monday, Sep 8 at 9:03 AM
Mon, Sep 8 at 06:03:18 PDT

Bruggemann, GP and Glad, B 1988,
>'Biomechanics of sprint events - Reaction time'.
>Scientific Research Project at the games of the
>XXIVth Olympiad - Seoul 1988. Final Report -
>Time Analysis of the Sprint and Hurdle events, pp
>26-27. International Athletic
>Foundation.

Jongsma, DM, Elliott, D & Lee, TD
>1987, 'Experience and set in the running sprint
>start', Perceptual and Motor Skills, 64,
>547-550

thanks...i will speak to gp bruggemann in athens in oct...he is a chair at the VII ioc olympic world congress on sport sciences.....

Re: reaction times

[louise tricard](#)

reply

Posted Monday, Sep 8 at 9:07 AM
Mon, Sep 8 at 06:07:44 PDT

(for college-aged
>humans.

not acceptable...

Re: reaction times

posted by: rh

reply

Posted Monday, Sep 8 at 10:47 AM
Mon, Sep 8 at 07:47:39 PDT

Certain athletes have great reaction times. If you look at the times for Colin Jackson over the years you'll find that he averaged between 0.11 and 0.12. Back at the end of the 1950's some tests were done in Germany. The average reaction time of the best athlete (with 1 exception) was 0.12 seconds. This gives some credence to a level of 0.10 as being a reasonable level. Of course it tells us that Maurice Greene runs the 100m at his best in 9.69 rather than 9.79 - but that's in a perfect world. The 1 exception was Armin Hary (known in Germany as "the thief of starts"), whose reaction time was 0.04 seconds. He definitely anticipated, and won the '58 Europeans on a flying start. Having the 0.100 (rather than 0.000) is an effort to put the athletes on an even field at the start.

Re: reaction times louise tricard	<input type="button" value="reply"/>	Posted Monday, Sep 8 at 10:56 AM Mon, Sep 8 at 07:56:44 PDT
<p>>Certain athletes have great reaction times. The 1 exception was Armin Hary >(known in Germany as "the thief of starts"), >whose reaction time was 0.04 seconds.</p> <p>linford/ato, etc. will tell you the same thing...so, if "certain" athletes have great reaction times, what might the .100 be doing for them?????</p>		
Re: reaction times <i>Lightning</i>	<input type="button" value="reply"/>	Posted Monday, Sep 8 at 11:36 AM Mon, Sep 8 at 08:36:04 PDT
<p>Ms. Tricard: in relation to Christie's claim I need only to repeat your mantra of the last couple of days: "where's the lots of data?" A testimonial by one deluded athlete does not scientific evidence make.</p>		
Re: reaction times <i>posted by: JRM</i>	<input type="button" value="reply"/>	Posted Monday, Sep 8 at 11:43 AM Mon, Sep 8 at 08:43:13 PDT
<p>>linford/ato, etc. will tell you the same >thing...so, if "certain" athletes have great >reaction times, what might the .100 be doing for >them?????</p> <p>I always find it amusing when people think they're wild exceptions to the norm, with no quantitative backing to their statements. Gut feelings don't cut it in the world of published results.</p> <p>The incident in 1996 with Linford was based on the notion that he *knew* his reaction time was naturally faster than 0.10s, and refused to leave the track on that premise. If this was clearly known to him, and not just a hunch, then why didn't they share their data with the rest world? It would certainly provide support for changing the rule!</p>		
Re: reaction times <i>CAH</i>	<input type="button" value="reply"/>	Posted Monday, Sep 8 at 12:10 PM Mon, Sep 8 at 09:10:21 PDT
<p>>Ms. Tricard: in relation to Christie's claim I >need only to repeat your mantra of the last >couple of days: "where's the lots of data?" A >testimonial by one deluded athlete does not >scientific evidence make.</p> <p>Good point, Lightning! Yes, Ms. Tricard, if you have scientific data that suggests humans can routinely react to the gun (without anticipation) in <0.1 sec, please share it with us. The suspense is killing us!</p> <p>Under the assumption that neither you nor DGT can produce data supporting either claim, this is a pointless discussion. The IAAF has chosen to use 0.1 sec as the standard. It may be arbitrary, but it is the rule.</p>		
Re: reaction times <i>Data</i>	<input type="button" value="reply"/>	Posted Monday, Sep 8 at 12:21 PM Mon, Sep 8 at 09:21:28 PDT
<p>></p> <p>(for college-aged >humans.</p> <p>not >acceptable...</p> <p>Louise, do you have data that contradicts this? Please share!</p>		
Re: reaction times louise tricard	<input type="button" value="reply"/>	Posted Monday, Sep 8 at 12:38 PM Mon, Sep 8 at 09:38:31 PDT
<p>hey guys...read the posts...others are claiming data....not me..... you know the old commercial, where's the beef???? well, it's me saying....where's the data???? testing of olympic level 100m sprinters and reaction times...i haven't found any...but looking.....come on, help</p>		

Re: reaction timesposted by: [gh](#) ([e. garry hill](#))[reply](#)Posted Monday, Sep 8 at 12:48 PM
Mon, Sep 8 at 09:48:40 PDT

this is way long, but I think worth inserting at this point. This was published in the March '97 edition of T&FN, after Linford Christie threw his i-didn't-false-start tantrum in Atlanta (we won't even get into why IAAF didn't sanction him for disrupting a meet as long as Drummond did, and on a far bigger stage).

Christie Not Robbed

A noted statistician says the numbers clearly show that the Olympic false-start call was the right one

Was Linford Christie an innocent victim of obsolete technical equipment and rules when he got his second false start charge in the Olympic 100 final? That was the opinion expressed by engineer William Alston in the February issue of T&FN. According to Alston, Christie has achieved an ability to consistently react quicker than the limit of 0.100 allowed by the IAAF rules, and his 0.086 "reaction time" in Atlanta shouldn't have been ruled illegal.

Respected Swedish statistician A. Lennart Julin begs to differ. "Actually, a more thorough analysis of the situation in Atlanta shows that Christie's false start was even more blatant than what the strictly numerical difference of 0.014 to the limit seems to indicate," he says.

Julin says only one rule can apply when it comes to a fair start: "Every competitor remains still in the blocks until they have 'experienced' the sound of the gun. Then, and only then, good reaction ability is a valuable asset while clairvoyance or luck plays no part."

Julin also notes that neuromuscular processes mandate that if athletes wait for the gun there will be an inevitable delay before they get moving. "It has nothing to do with 'will' and nobody has (yet?) been able to show that more than marginal improvements could be achieved through training," he says.

"Reactions have another significant characteristic. They are repeatable, as they are 'automatized body reflexes.' So if some athlete was gifted with superhuman reactions, that ability would show up in every start in every race. It is then quite interesting to look at the numbers actually produced by individual athletes in a sequence of races.

"Let's look at Gail Devers, well known for her always very strong early part of the races. In Atlanta she ran eight races on the straight-away and she recorded the following reaction times:

Heat Quarter Semi Final

100 0.189 0.175 0.177 0.166

100H 0.183 0.193 0.181 0.189

"Thus the variation for eight different starts was a mere 0.027 and she had six of eight crammed into 0.014. That is what it looks like when true reactions are in place. And Devers was far from unique in this aspect in Atlanta. Other typical examples: In the men's 100 Donovan Bailey had his four within 0.011 and Frank Fredericks his within 0.014—and in the women's 100H Michelle Freeman squeezed her four into 0.008.

"Now the obvious question is: what did Christie achieve in his other races in Atlanta? The answer: he had 0.160, 0.134 and 0.125 in the 100 rounds, and 0.151 and 0.148 in his two 200 races. Slightly better than average but nothing exceptional and absolutely nothing indicating that he had an 0.086 up his sleeve.

"It's also interesting to look at the times recorded for Ato Boldon, who complained after the 100 final for being recalled and penalized for an 0.082 time. For Boldon the numbers were 0.137, 0.160, 0.145 and 0.164 in the 100 and 0.182, 0.148, 0.160 and 0.208 in the 200. Would a true 0.082 reactor be so slow on all other occasions in Atlanta when so much was at stake?

"Thus the claim by Alston that 'consistent reaction times below 0.100 are easily attainable among athletes so trained' lacks any kind of factual support in current reality. Absolutely nobody has been able to demonstrate consistency at those levels.

"Nobody has shown consistency lower than 0.12-0.13, and furthermore, no trend of improvement can be found. In the '72 Olympics (system giving reaction times only in 100ths) Valeriy Borzov recorded 0.12, 0.12, 0.12 and 0.13 in his four 100m races! Compare that, for example, with Christie's 0.130, 0.142, 0.129 and 0.110 in the '95 World Championships.

"So we can all rest assured that the warnings given to Boldon and Christie in the 100 final in Atlanta were deserved. Neither the equipment nor the rules did them any injustice. They were caught not because they were too skilled, but because they tried—perhaps sub consciously—to guess the gun."

Re: reaction timesposted by: [louise tricar](#)[reply](#)Posted Monday, Sep 8 at 1:53 PM
Mon, Sep 8 at 10:53:20 PDT

>While I can't cite chapter and verse, I'm
>confident in my recall that the IAAF engaged in
>(or commissioned) some real research before
>setting the 0.1 limit.

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>training is going to change it.

(t&fn 2/97 article by alston-"consistent reaction times below 0.100 are easily attainable among athletes so trained"

but the IAAF

>took the precaution of cutting off a couple more
>100ths, just to be sure that any outliers weren't
>unfairly nabbed.

"cutting off" where's the data????

Re: reaction times reply Posted Monday, Sep 8 at 1:56 PM
Mon, Sep 8 at 10:56:47 PDT
[louise tricard](#)

This was published in the March '97
>
garry...post the first article by alston also....

Re: reaction times reply Posted Monday, Sep 8 at 2:05 PM
Mon, Sep 8 at 11:05:11 PDT
[louise tricard](#)

and then you have julin's later article about faulty times because of the distance between starter and the lane that the athlete is in....(atlanta 1996) vs. the current seiko silent gun (he claims mo's wr should have been 9.82 not 9.87)

Re: reaction times reply Posted Monday, Sep 8 at 2:45 PM
Mon, Sep 8 at 11:45:41 PDT
 CAH

Garry,

Please post the data used to support Alston's claim that "consistent reaction times below 0.100 are easily attainable among athletes so trained" as well. We couldn't possibly believe this is true unless there's sufficient data, could we?

>This was published in the March
>'97
>
>garry...post the first article by alston
>also....

Re: reaction times reply Posted Monday, Sep 8 at 3:34 PM
Mon, Sep 8 at 12:34:57 PDT
[louise tricard](#)

i just said please post the article.....
we do want 2 sides to each story, don't we???

Re: reaction times reply Posted Monday, Sep 8 at 3:38 PM
Mon, Sep 8 at 12:38:55 PDT
 Enough already!

Louise,

Give it up already on the data! One of two things has happened.

A. DTG made a mistake in claiming to have data or to know where to find it. No doubt that DTG recalls reading an article or two addressing this issue. Perhaps he believed that the DATA would be easy to find, not realizing that raw DATA is rarely posted with the analysis. I, too, thought it might be easy to find a wealth of real information online, but I haven't had a whole lot of luck. Give him the benefit of the doubt in this case.

b. DTG is simply yanking your chain. Having read most of your posts regarding this issue, it is easy to understand why he would do this.

If you're looking for basic info on reaction times, take a look at this page.

<http://biae.clemson.edu/bpc/bp/Lab/110/reaction.htm>

If you read this, you will find that the mean reaction time to sound stimuli for college-age students is ~0.16. Reaction time does vary by age, but tends to peak by the late 20's.

No, the data does not accompany the literature. However, one should not expect it to. [For most people, an accurate analysis of the data is sufficient.] If you doubt the analysis, then perhaps you could try to track down the researchers and ask for the data yourself.

No, the literature does not address world class athletes. So what? It would appear that very little work in the area has been performed on these athletes [at least it's not easy to find online]. Assuming such work has not been performed on star athletes, then the IAAF has used what's available to them and, perhaps, made an "athlete" adjustment. It may not be the most scientific, but it is what it is.

Until someone does conduct research that shows the 0.1 sec standard is unreasonable and that it is possible for world-class athlete to consistently react in less time, then there's no basis to demand a change.

Re: reaction times Posted Monday, Sep 8 at 3:46 PM

<i>More than enough already</i>	reply	<i>Mon, Sep 8 at 12:46:46 PDT</i>
<p>And if you want data from world class athletes, just look at the compilation of reaction times that are generated by every World Championship, Olympic Games, Euro Championship, etc. There's an enormous amount of data out there and it all confirms exactly what Garry wrote.</p> <p>No, Louise, there are not two legitimate sides to every issue. On some issues there's a demonstrable truth, and this is one of them. If you disagree, you might as well join the Flat Earth Society.</p>		
Re: reaction times louise tricard	reply	Posted Monday, Sep 8 at 4:03 PM <i>Mon, Sep 8 at 01:03:45 PDT</i>
<p>what part of "garry, POST THE OTHER ARTICLE, DON'T YOU UNDERSTAND???????" that's all i said....i don't take either article as a scientific study done on a track with olympic level athletes, etc. to specifically test reaction time to gun.....not in a meet....the usual way scientific studies are carried out....now, maybe there was one...but no one yet has found it!!!</p>		
Re: reaction times posted by: gh (e. garry hill)	reply	Posted Monday, Sep 8 at 5:47 PM <i>Mon, Sep 8 at 02:47:26 PDT</i>
<p>Yo, Louise! I'm not on-call here. I actually do have a (more than) full-time job to attend to, and haven't been on the Board since early this morning.</p> <p>As to your request, I have to say no, and instead shamefacedly admit that the Alston piece never should have run in the magazine in the first place. Reflects poorly on my editorial judgment that it saw the light of day. In retrospect (as Julin quickly pointed out), it's full of unproven statements that have little foundation. I'll not further the foolishness by bringing it back to light.</p>		
Re: reaction times louise tricard	reply	Posted Monday, Sep 8 at 6:49 PM <i>Mon, Sep 8 at 03:49:27 PDT</i>
<p>>Yo, Louise! I'm not on-call here. I actually do >have a (more than) full-time job to attend to, >and haven't been on the Board since early this >morning.</p> <p>yo, garry....figured since you took the time to post the lengthy follow-up article, you should also post the the first one...</p>		
Re: reaction times CAH	reply	Posted Monday, Sep 8 at 7:07 PM <i>Mon, Sep 8 at 04:07:54 PDT</i>
<p>Louise,</p> <p>Read what Garry said: "the Alston piece never should have run in the magazine in the first place...it's full of unproven statements that have little foundation. I'll not further the foolishness by bringing it back to light."</p> <p>Why repost an article that he believes lacks credibility? Based on what other posters have said in this thread regarding reaction times, it's likely they too would share Garry's opinion.</p> <p>If it's so important to you, post it yourself! You do have it don't you? I'm guessing the first thing you did after reading Garry's original post of the "Christie Not Robbed " article was pull it off your shelf. Scanners and OCR software do wonderful things today!</p>		
Re: reaction times louise tricard	reply	Posted Monday, Sep 8 at 7:27 PM <i>Mon, Sep 8 at 04:27:32 PDT</i>
<p>You do have it don't you? I'm >guessing the first thing you did after reading >Garry's original post of the "Christie Not >Robbed " article was pull it off your shelf.</p> <p>wasn't on shelf - was right on desk...don't guess..you can get dq'ed doing that!</p> <p>not important to me..but journalistically the 2 articles should be presented...the one garry posted was an answer to the other...is it ok with you to just read one side of a debate ???</p>		
Re: reaction times louise tricard	reply	Posted Monday, Sep 8 at 7:31 PM <i>Mon, Sep 8 at 04:31:41 PDT</i>
<p>Read what Garry said: "the Alston</p>		

>piece never should have run in the magazine in
>the first place...it's full of unproven
>statements that have little foundation. I'll not
>further the foolishness by bringing it back to
>light."

Why repost an article that he
>believes lacks credibility?

oh, ok...i guess i will become a member of garry's thinking club too...that way i don't have to think for myself...

Re: reaction times

CAH

reply

Posted Monday, Sep 8 at 8:03 PM
Mon, Sep 8 at 05:03:15 PDT

"...don't guess..you can get dq'ed doing that!"

Now there's a point on which we may agree!

Yes, it is physically impossible for the following events to occur simultaneously (cut and pasted from an earlier JRM post):

1. Gun goes off
2. Sound travels from gun to ear
3. ear registers sound, sends impulse to brain
4. brain processes sound, sends signal to start running.
5. signal is received by muscles; sprinter goes!

So, if a runner's reaction time is less than the legal limit (either the IAAF or the unknown scientific standard), then we can assume at least some anticipation on the part of the runner.

But, should we penalize an athlete for simply thinking about going before the gun? After all, if his reaction time is ≥ 0.0 , then technically it would seem he has not false started. Yes, neurological activity may have occurred before the gun to trigger the physical activity; however, according to the timing system on the blocks, physical activity took place after the starter pulled the trigger. Since one can only guess what the "average" reaction time is and there could always be exceptions, the 0.1 sec standard is problematic at best.

A very simple solution would be to do away with the 0.1 rule. Only reaction times < 0.0 trigger the warning. But, to discourage this "anticipation", institute the "one false start and you're out" rule. Yes, allow starters and their assistance to call false starts clearly visual false starts (even if the machine doesn't see it). Furthermore, allow officials to view video of the start at a later time and dq anyone they didn't catch the first time around.

Re: reaction times

posted by: rmayes (Randy Mayes)

reply

Posted Monday, Sep 8 at 8:09 PM
Mon, Sep 8 at 05:09:57 PDT

The incident in
>1996 with Linford was based on the notion that he
>*knew* his reaction time was naturally faster
>than 0.10s, and refused to leave the track on
>that premise. If this was clearly known to him,
>and not just a hunch, then why didn't they share
>their data with the rest world? It would
>certainly provide support for changing the
>rule!

I seem to remember the announcers for the US broadcast saying something to the effect that Linford supported, or was even pushing for, the false start rule with the .12 second allowance which is what I think it was back in '96 (as gh said above), and how ironic it was that he was waiving his hands at the officials and refusing to leave the track after he got DQ'd at the Olympics. Anyone else remember something to this effect? If he had any prior knowledge of his ability to react in less than .1 seconds he shouldn't have been supporting the rule being put into place by the IAAF in the first place. Don't quote me on this for sure as I haven't seen the race in over 7 years, but I seem to remember something along those lines being said.

Re: reaction times

CAH

reply

Posted Monday, Sep 8 at 8:11 PM
Mon, Sep 8 at 05:11:57 PDT

oh, ok...i
>guess i will become a member of garry's thinking
>club too...that way i don't have to think for
>myself...

But, you have read it and have formed your own opinion. I'm sure others who read this thread will pull out there old mags and read the article themselves. They, too, will form their own opinion.

Is it necessary for Garry to present both sides of an argument when he posts here? As a journalist, I would expect his writings to be unbiased. But this applies to the articles he writes for T&FN. If he visits and contributes to this message board, I would hope he

does so for his own reason, to express his own views and opinions. The same applies to anyone who posts here, journalist or not.

Re: reaction times
[louise tricard](#)

 Posted Monday, Sep 8 at 8:44 PM
 Mon, Sep 8 at 05:44:06 PDT

I seem to remember
 >the announcers for the US broadcast saying
 >something to the effect that Linford supported,
 >or was even pushing for, the false start rule
 >with the .12 second allowance which is what I
 >think it was back in '96 (as gh said above), and
 >how ironic it was that he was waiving his hands
 >at the officials and refusing to leave the track
 >after he got DQ'd at the Olympics. Anyone else
 >remember something to this effect?

yes..if gh had posted the OTHER article, it's in there...!!!!!!!

Re: reaction times
[louise tricard](#)

 Posted Monday, Sep 8 at 8:49 PM
 Mon, Sep 8 at 05:49:00 PDT

But, you have
 >read it and have formed your own opinion.
 no..i've read it...but rather than an opinion, i want to see the testing done or have someone do elite athlete testing..like i said
 earlier, i'll check with gideon ariel..he should know

Is it
 >necessary for Garry to present both sides of an
 >argument when he posts here? As a journalist, I
 >would expect his writings to be unbiased. But
 >this applies to the articles he writes for T&FN.
 >If he visits and contributes to this message
 >board, I would hope he does so for his own
 >reason, to express his own views and opinions.
 >The same applies to anyone who posts here,
 >journalist or not.

sounds good, xcept it's his board!!!! t&fn is on top...that's NOT me....

Re: reaction times

posted by: DTG

 Posted Monday, Sep 8 at 8:49 PM
 Mon, Sep 8 at 05:49:31 PDT

DTG is
 >simply yanking your chain. Having read most of
 >your posts regarding this issue, it is easy to
 >understand why he would do this.

I'm not (trying) to pull anyone's chain. As mentioned by personal communication to Louise, this is still a work-in-progress (finding the original study). I haven't forgotten the task. Thanks

Re: reaction times
[louise tricard](#)

 Posted Monday, Sep 8 at 8:57 PM
 Mon, Sep 8 at 05:57:47 PDT

then we can
 >assume at least some anticipation on the part of
 >the runner.

But, should we penalize an athlete
 >for simply thinking about going before the gun?

YUP, THERE IS NOTHING ILLEGAL ABOUT ANTICIPATION IN IAAF RULES

>After all, if his reaction time is ≥ 0.0 , then
 >technically it would seem he has not false

>started. Yes, neurological activity may have
 >occured before the gun to trigger the physical
 >activity; however, according to the timing system
 >on the blocks, physical activity took place after
 >the starter pulled the trigger. Since one can
 >only guess what the "average" reaction time is
 >and there could always be exceptions, the 0.1 sec
 >standard is problematic at best.

A very simple
 >solution would be to do away with the 0.1 rule.
 >Only reaction times <0.0 trigger the warning.
 >But, to discourage this "anticipation",
 (DARN, YOU WERE DOING GOOD UNTIL HERE!!!
 >institute the "one false start and you're out"
 >rule.

Yes, allow starters and their assistance to
 >call false starts clearly visual false starts
 LIKE THE GOOD OLE DAYS!
 >(even if the machine doesn't see it).
 UNFORTUNATELY THE MACHINES ARE GETTING MORE SOPHISTICATED ...
 >Furthermore, allow officials to view video of the
 >start at a later time and dq anyone they didn't
 >catch the first time around.THAT'S NOT TOO BAD....

Re: reaction times

posted by: [gh](#) ([e. garry hill](#))

reply

Posted Monday, Sep 8 at 9:08 PM
Mon, Sep 8 at 06:08:01 PDT

>>Is it
 >necessary for Garry to present both sides of an
 >argument when he posts here? As a journalist, I
 >>would expect his writings to be unbiased. But
 >this applies to the articles he writes for T&FN.
 >If he visits and contributes to this message
 >board, I would hope he does so for his own
 >reason, to express his own views and opinions.
 >The same applies to anyone who posts here,
 >journalist or not.>>

I'm definitely interested in seeing both sides presented (whether I participate directly or not) in VALID arguments. This is not one of those cases. The Alston piece is--perhaps stretching the analogy a bit--a National Enquirer piece. It's not the other side of any argument.

Personally, I'm a firm believer--even though I can't cite chapter and verse--that the IAAF has done/seen sufficient research that the 0.100 cutoff is more than fair. If there's data to the contrary I'd love to see it, but I doubt there is.

If some sprinter really can REACT (not anticipate) faster than that, they should get a reputable researcher (I'm sure any big-league university's physiology department would jump at the chance) to run experiments and show that contrary data to the IAAF. Simply saying "I'm faster than that" doesn't mean a thing.

gh

ps--I also believe that the way the blocks read false starts is not immune to error, and that Drummond got penalized for lateral motion that gave him zero aid. But that's not the issue in this thread. The question remains: can anyone come up with one whit of scientific data that shows ANYBODY capable of reacting faster than 0.100?

Re: reaction times

[louise tricard](#)

reply

Posted Monday, Sep 8 at 9:51 PM
Mon, Sep 8 at 06:51:08 PDT

The Alston piece is--perhaps stretching
 >the analogy a bit--a National Enquirer piece.

W H A T????????????????????????????????
 SO WHAT MADE YOU PRINT IT??????

ps--I also believe
 >that the way the blocks read false starts is not
 >immune to error, and that Drummond got penalized
 >for lateral motion that gave him zero aid. But
 >that's not the issue in this thread. The question
 >remains: can anyone come up with one whit of
 >scientific data that shows ANYBODY capable of
 >reacting faster than 0.100?

AND THE QUICK GUN.....

TRUE

Re: reaction timesposted by: [michael lewis](#) ([michael lewis](#))[reply](#)Posted Monday, Sep 8 at 10:12 PM
Mon, Sep 8 at 07:12:35 PDT

Louise you better watch it or you'll wear out the "?" key. Or do you just hold it down? :)

Re: reaction times

CAH

[reply](#)Posted Tuesday, Sep 9 at 1:08 AM
Mon, Sep 8 at 10:08:31 PDT

"But, to discourage this "anticipation", (DARN, YOU WERE DOING GOOD UNTIL HERE!!! institute the "one false start and you're out" rule.

While anticipating the gun may not be specifically forbidden by the rules, it shouldn't be encouraged, either. If an athlete wants to try to gain such an advantage, there should be consequences if he fails. Otherwise, we're back to 100m races with a half dozen restarts.

Someone suggested earlier that the start of the race should be randomized. This makes sense. Let the starter call the runners to SET. Once he's satisfied everyone is ready, he presses a button that (or pulls the trigger). But, instead of the gun immediately firing, a random period of time passes (say 1 to 2 seconds?) before it fires. With this sytem, do away with the gun. How about a tone?

P.S. While the reaction time standard may seem ridiculous, the current "one false start for the field" rule is by far the most ridiculous and unfair rule of all. My opinion, of course!

Re: reaction times

cookymonzta

[reply](#)Posted Tuesday, Sep 9 at 2:23 PM
Tue, Sep 9 at 11:23:02 PDT

"how long have we had the .1 second rule?

what does everyone think of the rule?

of course, changing it now would make it easier to set new records, but it does seem kind of silly"

It does, doesn't it? Armin Hary used to be the fastest starter alive. Some people say that he routinely got out of the blocks within .05 of the gun. He had one of his 10.0 world records called back, because the starter thought he jumped the gun. They ran the race again, and he ran ANOTHER 10.0!

Dennis Mitchell was one of the fastest starters of recent memory. He routinely got out of the blocks between .085 and .115 after the gun. His 1991 World Championship performance of 9.91 in Tokyo was accepted as a third-place performance, despite the fact that his reaction time was somewhere between .090 and .1, because his fast start was not thought to be a deliberate attempt to jump the gun (although T&FN thought so, and refused to accept that performance as one of the 10 best at that time). Let it be said that he didn't get away with his fast starts all the time. Sometimes he was caught, and on maybe one or two occasion he was clearly shown to have had a rolling start. But I didn't see such a case at Tokyo in 1991.

How much force does the average sprinter apply to the blocks just as he or she makes his or her move to get out of the blocks? I ask that question, because maybe they ought to run an extensive study (if they haven't already), to see at what point a runner is actually applying pressure to start running. They may want to apply a pressure-sensitive strip (perhaps 2 to 6 inches wide) at the starting line, where the hands are set. Maybe this will make the .1-second reaction time rule obsolete, and put to rest the suspicion that some fast times were the result of rolling starts, especially if the reaction time is as lightning-fast as was Mitchell's.

Re: reaction timesposted by: [gh](#) ([e. garry hill](#))[reply](#)Posted Tuesday, Sep 9 at 2:42 PM
Tue, Sep 9 at 11:42:10 PDT

>>Dennis Mitchell was one of the fastest
>starters of recent memory. He routinely got out
>of the blocks between .085 and .115 after the
>gun. His 1991 World Championship performance of
>9.91 in Tokyo was accepted as a third-place
>performance, despite the fact that his reaction
>time was somewhere between .090 and .1, because
>his fast start was not thought to be a deliberate
>attempt to jump the gun (although T&FN thought
>so, and refused to accept that performance as
>one of the 10 best at that time).>>

Nice attempt at rewriting history, but it won't wash. Mitchell at Tokyo was 0.90. Why wasn't he called back? Because the starter wasn't wearing his headset and didn't hear the FS signal go off.

As for his "routinely" getting out between 0.85 and 0.115, kindly provide some numbers to back that up. At the moment, only ones I have in front of me are for the other two World Champs finals he ran in. In the 100 in '93 he was 0.128, and in the indoor 60 that same year he was 0.164.

Re: reaction times louise tricard	<input type="button" value="reply"/>	Posted Tuesday, Sep 9 at 3:38 PM <i>Tue, Sep 9 at 12:38:04 PDT</i>
<p>How much force does the >average sprinter apply to the blocks just as he >or she makes his or her move to get out of the >blocks? I ask that question, because maybe they >ought to run an extensive study (if they haven't >already), to see at what point a runner is >actually applying pressure to start running. >They may want to apply a pressure-sensitive >strip (perhaps 2 to 6 inches wide) at the >starting line, where the hands are set. Maybe >this will make the .1-second reaction time rule >obsolete, and put to rest the suspicion that >some fast times were the result of rolling >starts, especially if the reaction time is as >lightning-fast as was Mitchell's.</p> <p>you go, cookymonzta...yea!</p>		
Re: reaction times posted by: <i>The King</i>	<input type="button" value="reply"/>	Posted Tuesday, Sep 9 at 3:47 PM <i>Tue, Sep 9 at 12:47:21 PDT</i>
<p>The thing about Armin Hary was that the starter would call set, and then wait for Hary to get into the start position, and then when Hary 'took off', the starter would then fire the gun. In effect, the starter's of races would almost 'allow' Hary to start the race.</p> <p>Once Hary knew this, he would use it to his advantage.</p> <p>I wonder what the IAAF today would have to say about that???</p> <p>Hmmm...</p>		
Re: reaction times Josh	<input type="button" value="reply"/>	Posted Tuesday, Sep 9 at 3:58 PM <i>Tue, Sep 9 at 12:58:14 PDT</i>
<p>Why put a limit on possible reaction times? Why not just go back to making any movement after the gun (> .000) legal? If an athlete is talented enough to time it or anticipate correctly, I give him kudos for being skilled and experienced. Based on current "data," I bet most physiologists and scientists in the 1940s believed that a 3:43 mile would always be humanly impossible. Relying on data back then wouldn't have led us to the wrong conclusion. Not that there's anything wrong with analyzing data, but it shouldn't necessarily be the supreme deciding factor.</p> <p>And charging a false start to the field is wrong; The IAAF needs to fix that.</p>		
Re: reaction times louise tricard	<input type="button" value="reply"/>	Posted Tuesday, Sep 9 at 4:07 PM <i>Tue, Sep 9 at 01:07:51 PDT</i>
<p>>Why put a limit on possible reaction times? Why >not just go back to making any movement after the >gun (> .000) legal? If an athlete is talented >enough to time it or anticipate correctly, I give >him kudos for being skilled and experienced. >Based on current "data," I bet most >physiologists and scientists in the 1940s >believed that a 3:43 mile would always be humanly >impossible. Relying on data back then wouldn't >have led us to the wrong conclusion. Not that >there's anything wrong with analyzing data, but >it shouldn't necessarily be the supreme deciding >factor.</p> <p>And charging a false start to the >field is wrong; The IAAF needs to fix that.</p> <p>WHERE DID ALL YOU THINKING PEOPLE COME FROM? YEA!</p>		
Re: reaction times posted by: <i>JRM</i>	<input type="button" value="reply"/>	Posted Tuesday, Sep 9 at 6:11 PM <i>Tue, Sep 9 at 03:11:49 PDT</i>
<p>> I bet most >physiologists and scientists in the 1940s</p>		

>believed that a 3:43 mile would always be humanly
>impossible.

Nice try on the standard "slap down modern science" comparison. Unfortunately, it's over-used and usually weakly applied (e.g. "Einstein said no one can travel faster than light, but they also said man would never break the 4 min mile!").

There is a HUGE difference between performance improvements due to training, and changing the travel-time of electro-chemical nerve impulses. The latter is what determines a reaction time, and is a function of physical/chemical structures. I very much doubt (extremely doubt) one could change these in any significant way through "hard training". The only way I would think one could possibly change this (if at all) is by external chemical means, and that would be considered doping.

If there are studies which suggest this actually can be done, I would be interested in knowing about them (and we're not talking about synaptic plasticity or conditioning in the brain here).

Re: reaction times

Josh

reply

Posted Tuesday, Sep 9 at 7:32 PM
Tue, Sep 9 at 04:32:49 PDT

Nice try yourself, but I wasn't slapping down modern science. No disrespect to Garry Hill, the IAAF or any scientist, but I prefer to evaluate myself instead of agreeing because (insert important authority here) says so.

I never said reaction times could be improved with hard training, nor that they could not be improved.

But why is the allowable set at .100 seconds? Why not .110 or .090 seconds? The .100 seconds figure is mostly arbitrary. Is it a coincidence that it is a "round" number? It has the precision of the thousandths place but it happens to be divisible by one tenth. Why? Because the IAAF chose it. If the IAAF believes the best legal reaction time is .110, and they gave an extra .010 seconds for "cushion," why did they choose .010 seconds for the cushion? If the best legal reaction time is .110 seconds, then shouldn't .105 seconds be a false start? Unless you set the standard at .000, everything is arbitrary.

Re: reaction times

posted by: JRM

reply

Posted Tuesday, Sep 9 at 7:55 PM
Tue, Sep 9 at 04:55:33 PDT

>I wasn't slapping down modern science. No
>disrespect to Garry Hill, the IAAF or any
>scientist, but I prefer to evaluate myself
>instead of agreeing because (insert important
>authority here) says so.

This statement is self-contradictory. You aren't "slapping down modern science", but you just refuse to believe what researchers have found? Your motive -- as I read it -- seemed to be to discredit the 0.100s reaction time because the available reaction time data was "too old", and that somehow it would have evolved over time thanks to training advances.

Re: reaction times

[louise tricard](#)

reply

Posted Tuesday, Sep 9 at 9:22 PM
Tue, Sep 9 at 06:22:08 PDT

But why is the allowable set at .100
>seconds? Why not .110 or .090 seconds? The .100
>seconds figure is mostly arbitrary. Is it a
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>did they choose .010 seconds for the cushion? If
>the best legal reaction time is .110 seconds,
>then shouldn't .105 seconds be a false start?
>Unless you set the standard at .000, everything
>is arbitrary.

AT LEAST SOMEONE IS DOING SOME THINKING RATHER THAN ACCEPTING...GREAT! AND THEN MAYBE SOME TESTING WILL BE DONE...WHEN YOU HAVE A PAYCHECK AT THE FINISH LINE, AND PUNISHMENT HANGING OVER YOUR HEAD, THAT'S NOT TESTING!

Re: reaction times

[louise tricard](#)

reply

Posted Tuesday, Sep 9 at 9:24 PM
Tue, Sep 9 at 06:24:26 PDT

but you just refuse to believe
>what researchers have found?

WHO ARE THEY? where's the research?

Re: reaction times 29 feet?!?!?!?	<input type="button" value="reply"/>	Posted Tuesday, Sep 9 at 10:55 PM Tue, Sep 9 at 07:55:05 PDT
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70 years ago, who would have thought that 29 feet was humanly possible--i read once that a scientist proposed that IF it were possible to jump over 28 feet (which he did NOT think was possible), that it would break the jumpers legs upon landing. at some point in time, human reaction will consistently beat the .100 landmark currently set by the IAAF.

Re: reaction times posted by: JRM	<input type="button" value="reply"/>	Posted Tuesday, Sep 9 at 11:07 PM Tue, Sep 9 at 08:07:31 PDT
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>70 years ago, who would have thought that 29
>feet was humanly possible-- . . .

Sigh...

Re: reaction times posted by: JRM	<input type="button" value="reply"/>	Posted Tuesday, Sep 9 at 11:21 PM Tue, Sep 9 at 08:21:19 PDT
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>WHO ARE THEY? where's the research?

You can start with this literature review:

<http://biae.clemson.edu/bpc/bp/Lab/110/reaction.htm>

Get thee to a library...

Re: reaction times CAH	<input type="button" value="reply"/>	Posted Tuesday, Sep 9 at 11:41 PM Tue, Sep 9 at 08:41:56 PDT
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"You aren't "slapping down modern science", but you just refuse to believe what researchers have found? Your motive -- as I read it -- seemed to be to discredit the 0.100s reaction time because the available reaction time data was "too old", and that somehow it would have evolved over time thanks to training advances."

JRM, you should reread Josh's previous post. I believe the point he is trying to make is that there seems to be no factual basis for a 0.100 reaction time (at least none is given). It is, at best, a completely generous, arbitrary approximation of what someone in the IAAF believes is a close estimate of an elite athletes reaction time based on the average reaction time from the research {Yes, that was supposed to wordy...} No one can seriously believe that is it possible for the chain of events you posted on another thread to occur simultaneously (ie, 0.000 sec). That's not the issue here...

Based on the info that is out there, it would appear that the average reaction time for 20-somethings is ~0.16 sec. So why 0.100? Has the research shown that elite athletes react ~0.06 sec faster? Also, is it a fair standard for all athletes, regardless of age and gender?

Unless reaction time is constant for all athletes across the board, then 0.100 is in fact arbitrary.

I'm guessing here, but I would say that reaction time is variable from person to person. It naturally takes some people longer to react to certain stimuli than others.

I doubt that we all react to sound stimuli at the same rate. Suppose, through thorough analysis it is known that athlete A reacts to sound in about 0.10 sec -- thus, we may assume that a reaction time significantly less than 0.10 was the result of his anticipating the gun.

Now, through thorough analysis it is known that athlete B reacts to sound in about 0.15 sec -- 0.5 sec slower! So, we can assume that a reaction time significantly less than 0.15 was the result of his anticipating the gun.

So, athletes A and B set up in their blocks. "Runners set....", the gun goes. Athlete A is dq'ed for a reaction time of 0.08 sec, under the limit. Keep in mind that this is also what the science would tell us. Athlete B, with a reaction time of 0.11 blazes down the straight for the victory. But, the science would tell us that athlete B must have anticipated the gun -- moreso than athlete A.

Is this fair? If the intent of the rule is to prevent an athlete from gaining a competitive edge by anticipating the gun, then the answer is no...

Re: reaction times CAH	<input type="button" value="reply"/>	Posted Tuesday, Sep 9 at 11:42 PM Tue, Sep 9 at 08:42:28 PDT
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"You aren't "slapping down modern science", but you just refuse to believe what researchers have found? Your motive -- as I read it -- seemed to be to discredit the 0.100s reaction time because the available reaction time data was "too old", and that somehow it would have evolved over time thanks to training advances."

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Is this fair? If the intent of the rule is to prevent an athlete from gaining a competitive edge by anticipating the gun, then the answer is no...

Re: reaction times

posted by: [gh](#) ([e. garry hill](#))

reply

Posted Wednesday, Sep 10 at 12:14 AM
Tue, Sep 9 at 09:14:26 PDT

Of course it's somewhat "arbitrary." Even though the threshold has tested out at a higher figure, the IAAF is giving the benefit of the doubt to the few outliers who MIGHT be out there. It's an imperfect system, but it's the fairest one the system will allow without changing the spirit of a 100+ years of sprinting, which is based on starting after actually hearing the gun, not anticipating when it goes off.

Here's another scenario for those of you want 0.00 blocks: what happens the first time somebody wiggles and sets off the detector even though the video apparently shows they haven't moved? No matter where you set the limit, somebody is always going to bitch because they don't believe the system. You're merely moving the parameters on where the bitching is going to occur. Drag racers walk away after the Chrondek red-lights them. I doubt sprinters would do the same.

Re: reaction times

CAH

reply

Posted Wednesday, Sep 10 at 12:33 AM
Tue, Sep 9 at 09:33:42 PDT

"...it's the fairest one the system will allow without changing the spirit of a 100+ years of sprinting, which is based on starting after actually hearing the gun, not anticipating when it goes off."

Yes, in the spirit of competition, one would expect a runner to start after the gun and not try to anticipate it. But, the rule has only been in place ~15 years. Was there an epidemic in the late 80's that led to the rule [I was still in high school back then :)]. How long has track actually measured reaction times? In the years prior, how could we be sure if a sprinter anticipated the gun?

Re: reaction times

chicks

reply

Posted Wednesday, Sep 10 at 12:52 AM
Tue, Sep 9 at 09:52:46 PDT

Why aren't people as interested in track and field as they once were? Because it's too damn confusing!

A sprinter runs 9.96 to break the world jr record in the 100m. But, it's not ratified because the track is a few cm short. Oh, and T&FN now reports the time as a 9.97.

A sprinter sets a new jr record in the 200m, but it may not be ratified because there wasn't proper drug testing on site. It's as if the race never took place.

A sprinter runs 9.91 in a WC race, but it isn't recognized because he may have reacted too quickly to the gun. Again, it's as if the sprinter was never there.

We know all of these events happened, but you may never find a record of it...

It seems like track officials are spending too much time trying to find a way to discredit a performance. Was the wind legal? What is the altitude? Was the track too soft or too hard? Were the right officials in the right place? Did his hand touch the bar or not? Was there auto-timing? Is this time converted from metric? You get the point...

Sure, these are all legitimate questions if you're trying to keep accurate records. But, if we keep cramming all this junk down Joe Blow's through everytime he watches a meet, he not going to want to come back

Re: reaction times

posted by: *tandfman*

reply

Posted Wednesday, Sep 10 at 7:13 AM
Wed, Sep 10 at 04:13:19 PDT

>>Why aren't people as interested in track and field as they once were? Because it's too damn confusing! . . if we keep cramming all this junk down Joe Blow's through everytime he watches a meet, he not going to want to come back<<

Nonsense. We just need to make sure that tv and the other media that present the sport to the public emphasize the competitive aspect of it, not the statistical. Most of the races in Paris were unbelievably exciting, even though no WR's were broken. Who cared? The fans were watching very competitive events, and they loved it.

People watch most other sports--team and individual--without worrying about the statistical significance of what they're watching. They'll do the same with track & field if we don't distract them with largely irrelevant trivia. We have a great sport. Let's not sell it short.

Re: reaction times

Asterix

reply

Posted Wednesday, Sep 10 at 8:18 AM
Wed, Sep 10 at 05:18:05 PDT

Yes, in the spirit of
>competition, one would expect a runner to start
>after the gun and not try to anticipate it. But,
>the rule has only been in place ~15 years. Was
>there an epidemic in the late 80's that led to
>the rule [I was still in high school back then
>:]. How long has track actually measured
>reaction times? In the years prior, how could we
>be sure if a sprinter anticipated the gun?

I'd guess the rule came into play at the same time the technology to be able to measure such reactions came into widespread use. Before then, false starts were determined by the very unscientific and arbitrary human eye.

Re: reaction times

louise tricard

reply

Posted Wednesday, Sep 10 at 8:54 AM
Wed, Sep 10 at 05:54:24 PDT

>>WHO ARE THEY? where's the research?

You can
>start with this literature
>review:

we are way past this.....

<http://biae.clemson.edu/bpc/bp/Lab/110/eaction.htm>

Get thee to a library...

sorry....you are missing the point...

Re: reaction times

louise tricard

reply

Posted Wednesday, Sep 10 at 9:06 AM
Wed, Sep 10 at 06:06:30 PDT

>Of course it's somewhat "arbitrary." Even though
>the threshold has tested out at a higher figure,
>the IAAF is giving the benefit of the doubt to
>the few outliers who MIGHT be out there.

oh, that IAAF..they are so generous...always looking to help the athlete

Here's another
>scenario for those of you want 0.00 blocks: what
>happens the first time somebody wiggles and sets
>off the detector even though the video apparently
>shows they haven't moved? No matter where you set

>the limit, somebody is always going to bitch
>becuase they don't believe the system. You're
>merely moving the parameters on where the
>bitching is going to occur.

you mean, like jon's start???????

bottom line..system stinks...do another one and get it right...finger tips ain't bad..

Re: reaction times

posted by: JRM

reply

Posted Wednesday, Sep 10 at 9:13 AM
Wed, Sep 10 at 06:13:03 PDT

>we are way past this.....
>sorry....you are missing the point...

Apparently we're not way past it, because you keep asking to see research data.

So, exactly *what* research is it that you're looking for, then? You've been presented with data showing that average human auditory reaction times are generally between 0.14-0.16s, statistical data to suggest that the avg. world class reaction time in a final is between 0.13-0.16s, and even evidence to show that the reaction times haven't significantly dropped due to changes in the rule.

Re: reaction times

Lemme 'splain

reply

Posted Wednesday, Sep 10 at 11:52 AM
Wed, Sep 10 at 08:52:21 PDT

>>we are way past this.....sorry....you are
missing the point...<

Apparentlv we're not way past it. because you keep asking to see research data.

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statistical data to suggest that the avg. world
class reaction time in a final is between
0.13-0.16s, and even evidence to show that the
reaction times haven't significantly dropped due
to changes in the rule.<<

What she is looking for is research that proves her position to be right. But her position is wrong, and there is no such research. Nothing anyone is going to do or say or find will convince her otherwise. Save your time and energy.

Re: reaction times

[louise tricard](#)

reply

Posted Wednesday, Sep 10 at 1:30 PM
Wed, Sep 10 at 10:30:56 PDT

You've been presented
>with data showing that average human auditory

and how fast do these average people run the 100??

all i've said ALL along and what i want to see (i'll ask bruggemann, ariel soon)are studies done on olympic athletes...period

yeah..so don't keep posting over and over unless you have this data...i don't want to hear about average college age students/how generous the iaaf is, etc...

Re: reaction times

Al in NYC

reply

Posted Wednesday, Sep 10 at 2:12 PM
Wed, Sep 10 at 11:12:00 PDT

Garry and others have already posted several times that there is already a LOT of data on the reaction times of world-class athletes based on the timings from the WCs and OGs. And that all of this data strongly supports the IAAF postion that gun reation times are in the .12+ range, even for world-class sprinters.

Look, you could get your wish and the blocks could be set to 0.00, but this would definitely change the nature of the event, and in a way that I think most athletes and fans would not like. This would inevitably make anticipation of the gun an accepted and legal part of the event, and there's no way around that. In fact, if we were to go to such blocks then we may as well go to the drag racing type electronic starts mentioned at the beginning of this thread, as this would at least standardize the anticipation and leave no excuse for false starts. One by-product would be that the world record would definitely fall, and perhaps quite significantly.

But you just can't have it both ways, either anticipation of the atart and "flyers" are a legal part of the event, or they're not. If "fliers" are not legal then there must be some sort of enforcement mechanism that is the same for all competitors and is as

impartial as possible. And I can certainly see no logical reason why this enforcement mechanism should not be based on the best empirical evidence available, such as that cited numerous times throughout this thread.

Re: reaction times

posted by: [Natasha](#) ([Natasha](#))

[reply](#)

Posted Wednesday, Sep 10 at 3:11 PM
Wed, Sep 10 at 12:11:01 PDT

I'll admit I'm a simpleton in this matter. We've accepted it to be true that it is not humanly possible to have a reaction time faster than 100 milliseconds. Why should it be different for sprinters- neural transmission I mean?

Re: reaction times

cookymonzta

[reply](#)

Posted Wednesday, Sep 10 at 3:28 PM
Wed, Sep 10 at 12:28:02 PDT

<<Why aren't people as interested in track and field as they once were? Because it's too damn confusing!

A sprinter runs 9.96 to break the world jr record in the 100m. But, it's not ratified because the track is a few cm short. Oh, and T&FN now reports the time as a 9.97.

A sprinter sets a new jr record in the 200m, but it may not be ratified because there wasn't proper drug testing on site. It's as if the race never took place.

A sprinter runs 9.91 in a WC race, but it isn't recognized because he may have reacted too quickly to the gun. Again, it's as if the sprinter was never there.

We know all of these events happened, but you may never find a record of it...

It seems like track officials are spending too much time trying to find a way to discredit a performance. Was the wind legal? What is the altitude? Was the track too soft or too hard? Were the right officials in the right place? Did his hand touch the bar or not? Was there auto-timing? Is this time converted from metric? You get the point...

INTERNET ARCHIVE
Wayback Machine
My sentiments expressed
legitimate question
anytime he watches a meet, he not going to want to come back.>>
<http://trackandfieldnews.com/tfn/discussion/viewThread.jsp?forum=1&thread=182> his junk down Joe SEP
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Garry: I stand corrected on the history of Mitchell's fast starts. I made that assessment based on the meets he has participated in (many of which I have on tape), and he certainly looked to be the fastest starter out there in quite a few of them, one of which he clearly rolled.

What were Ben's reaction times at the 1987 World Championships and 1988 Olympics?

Re: reaction times

posted by: [JRM](#)

[reply](#)

Posted Wednesday, Sep 10 at 3:35 PM
Wed, Sep 10 at 12:35:42 PDT

>What were Ben's reaction times at the 1987 World Championships and 1988 Olympics?

1987 - 0.129s
1988 - 0.132s

Average reaction for whole field in '88: 0.153s.

And Louise, those guys run the 100m in 9.9s, but speed of your legs and speed of nerve impulses aren't related.

Re: reaction times

posted by: [6 5.5hjsteve](#)

[reply](#)

Posted Wednesday, Sep 10 at 3:41 PM
Wed, Sep 10 at 12:41:10 PDT

"It's too damn confusing" because all us T&F freaks love all the stat stuff, and the general sports media uses expectation of "world records" too glibly.

If T&F is going to be more popular with the sporting masses, it will be because of PERSONALITIES, not statistics.

Be it a Marion Jones, a Mary Decker, a Michael Johnson, a Bob Kennedy, or whomever, our sport needs to sell our PEOPLE to the wider sports world, not nameless statistics.

And we need to build all this up outside of just a World context. You'll never get the general US sports fan interested in "a bunch of African or European runners with funny sounding names", particularly North African Arabic-sounding names, in today's world of US fear and antipathy towards the Islamic world. Sad, but true.

Re: reaction times

CAH

[reply](#)

Posted Wednesday, Sep 10 at 3:54 PM
Wed, Sep 10 at 12:54:21 PDT

I'll summarize the points I made in an earlier post.

There is data out there that shows that average human auditory reaction times are generally between 0.14-0.16s. We will not likely ever get our hands on the actual data, but let's have some faith in those who did the research and prented their findings.

However, is it not also possible that each individual has his or her own average? Linford Christie may, in fact, have an average reaction time of 0.12 (let's pretend this is true...) and Kim Collins may have an average reaction time of 0.15. Although I can't explain the science behind this, it seems plausible that this could happen.

For both athletes, reaction times significantly less than their average would suggest they are trying to anticipate the gun. Suppose the reaction times for both are 0.03 less than their average (a significant change), then Christie comes out of the blocks at 0.09 and Collins at 0.12.

Why is Christie disqualified, but not Collins? It would appear that Collin's is just as guilty as Christie. The only difference is that he naturally reacts more slowly than Christie.

This is the main problem that I have with the 0.1 standard. Normal reaction times are variable from person to person, yet we apply a constant standard to all athletes. If the goal is to discourage athletes from anticipating the gun, then I don't see how this is fair to everyone.

I'll admit that I don't have a solution, and it may be the best system. But, to say that it is the fairest is wrong.

Re: reaction times

chicks

reply

Posted Wednesday, Sep 10 at 4:06 PM
Wed, Sep 10 at 01:06:55 PDT

"It's too damn confusing" because all us T&F freaks love all the stat stuff..."

I don't disagree. I like track, have a master's degree in mathematics, and have taught college math and statistics for 5 years. So, naturally, I'm fascinated by the numbers.

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For most people, it won't make a bit of difference. They show up to see people run, jump, and throw. But, there may be a few out there who just give up on the sport because the numbers just don't add up.

Re: reaction times

posted by: [gh](#) ([e. garry hill](#))

reply

Posted Wednesday, Sep 10 at 4:16 PM
Wed, Sep 10 at 01:16:08 PDT

>> I stand corrected on the
>history of Mitchell's fast starts. I made that
>assessment based on the meets he has participated in (many of which I have on tape), and he certainly looked to be the fastest starter out there in quite a few of them, one of which he clearly rolled.>>

Reaction times are greatly overrated in talking about great starts. Going back to Armin Hary, who may or may not have had other-worldly reaction times, the key is how quickly you actually get your feet moving. I recall a grainy old loop film from my high school days (probably Toni Nett, since my coach was German), taken from the side 2-3m out from the start at the Rome final. Hary (as I recall it) didn't appear to move any more quickly than anyone else when the gun went off, but the low angle at which he drove out, and the quickness with which he got his second step down were mind-boggling. Looked like had a body-length on the field after two steps.

Conversely, what set Drummond (and the crowd) berserk in Paris was ifyou watch the basic film, you see him as third or fourth man out of the blocks (clearly way behind Powell, next to him). So having your foot twitch first doesn't necessarily mean all that much.

Mitchell is in the category of great starters because he had great getaway. The fact the caught a flyer in Tokyo doesn't necessarily mean that that was responsible for other fast starts.

Re: reaction times

steve

reply

Posted Wednesday, Sep 10 at 4:20 PM
Wed, Sep 10 at 01:20:56 PDT

I agree with Louise. The reaction times were tested on a different population than the one of interest here, namely world class athletes in the final of a major championship. Maybe they are the same, but to adopt this as a standard without being sure is potentially problematic.

Also, this isn't just a matter of neural transmission time. It is a matter of performing a complex set of movements upon receiving an auditory stimulus. The time for the sound to travel from the gun to the sprinters ears may be fixed, the time for the resulting neural transmission to the central nervous system and from the CNS to the limbs to cause movement may be fixed within an athlete (maybe not, I'm not sure), but the time to recognise the incoming neural transmission (sound) and turn it into a complex movement seems like it would be variable depending on how well practiced the process was. Further, it seems plausible thst the neural transmission time itself could be affected by repeated training and the circumstances, i.e. major champs final, making it faster than normal.

With regards to the unfairness of anticipating the gun well, people do this anyway. Athletes listen to the races and heats prior to

theirs to get a sense of the starters timing. They use this info to give them a sense of when they need to be most ready to respond; soon after being called to "set" or 1-2 seconds after, for example. Prior to the use of block sensors people anticipated the gun every race. "Flyers" were not starts that occurred unusually quickly after the gun, they were people who started before the gun or even with it but the starter missed it. It seems to make more sense to set the reaction time to 0.001 sec or slower with anything faster being a false start. If someone can start this fast without anticipation (or, more realistically, faster than 0.100 sec) then they aren't penalized. If someone wants to anticipate the gun and they fail, they get penalized (charged a false start). This system avoids the need for justification of a set reaction time, provides a penalty for bad guessers, allows the starter to know if a person really jumped or just wiggled his/her foot in the blocks. I don't think that a good sprinter would make it a practice to rely on anticipation alone because there is too much at stake for guessing wrong. Assuming that good sprinters are the only ones that make it to major championships I don't think that this starting policy would lead to a rash of new sprint world records.

Re: reaction times

posted by: [michael lewis](#) ([michael lewis](#))

Posted Wednesday, Sep 10 at 4:27 PM
Wed, Sep 10 at 01:27:41 PDT

Well I doubt anyone will like this but it would get around the problem of reaction times. You start 105 metres from the finish line (or 103 you get the pic) and the race is timed (by computer and camera) from the point where the torso crosses the "start" line to where it crosses the finish line. Then let's see who actually runs the 100 metres fastest. There'd even be a little bit of interesting nail-biting going on waiting to find out who really ran the distance the fastest. "So this is really not a 100 metre dash" Very perceptive. It's a 100 metre dash from a "flying" [not really after 3 metres] start which removes the source of what is currently torrents of dissatisfaction, and makes the race undeniably fair.

Re: reaction times

[Ajax L East](#)

Posted Wednesday, Sep 10 at 4:36 PM
Wed, Sep 10 at 01:36:26 PDT

<And we need to build all this up outside of just a World context. You'll never get the general US sports fan interested in "a bunch of African or European runners with funny sounding names", particularly North African Arabic-sounding names, in today's world of US fear and antipathy towards the Islamic world. Sad, but true. >

Track and field should be enjoyed in a world-wide sense, not a nationalistic, jingoistic way. If people do not want "strange sounding

people running for
http://trackandfieldnews.com/tfn/discussion/viewThread.jsp?forum=1&thread=182 I did not see SEP
le complain when Khannouchi wins his big races or sets world records/bests. Take a look at the medalists for
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universities, graduate programs, especially in science and engineering, would collapse in short order without the "foreign invasion".

Re: reaction times

posted by: [tandfman](#)

Posted Wednesday, Sep 10 at 4:37 PM
Wed, Sep 10 at 01:37:09 PDT

Let me add another thought to this discussion. Let's say you do not have automatic starting blocks, or you have them, but they are set to .000 instead of .100. A runner anticipates the gun almost perfectly and gets out within .01 or .02 of the gun. The other runners have a normal reaction time (because they are reacting, not anticipating). Under the rules, if the starter or a recall believes the start was not fair (regardless of whether anyone "beat" the gun), he/she is supposed to recall the start and charge the runner responsible.

Point is that anticipating the gun can be (and often is) penalized even if the runner did not start before the gun is fired.

Re: reaction times

[steve](#)

Posted Wednesday, Sep 10 at 4:44 PM
Wed, Sep 10 at 01:44:37 PDT

The starter wouldn't necessarily recall the start or charge a false start because he/she would not receive the beep from the blocks indicating reaction before the gun.

Re: reaction times

posted by: [bhall](#) ([Ben Hall- T&FN Internet Editor](#))

Posted Wednesday, Sep 10 at 4:51 PM
Wed, Sep 10 at 01:51:47 PDT

You're right, they *might* not recall the race but if the starter or recall sees a false start, beep or no beep, they should recall the race and charge the false start. That is their job. The beep and all the fancy equipment is secondary. The starter/recall has a job to do with or without the electronics.

Re: reaction times

[louise tricard](#)

Posted Wednesday, Sep 10 at 5:14 PM
Wed, Sep 10 at 02:14:17 PDT

>The starter/recall has a job to do with or
>without the electronics.

just a little comment...the starter(recall)did not recall jon, the seiko system did...it's all AUTOMATIC now 0.8 seconds after gun...

Re: reaction times

[Mike](#)

Posted Wednesday, Sep 10 at 5:26 PM
Wed, Sep 10 at 02:26:05 PDT

For argument sake..lets say we`re looking in the wrong place..i.e. reaction time. Just look at the reaction times of championship races for the past 5 years...men and women in races of 100m..you can also include 110/100 hurdle races. You`ll see that the person with the best " reaction time" was not the winner of that race...look further and see where everyone was at the 10m, 20 , and 30m mark....that takes us from drive , acceleration and into the start of transition at 30 to 35m....you`ll be surprised to see that it`s not reaction time but proper start mechnics and acceleration mechnics that are of importance...sensory reaction is important but it`s what you do with that " get away" that makes the race

100 Final IAAF World Champ @ Athens 1997
 Name-- RT--10m---20m---30m--100m Finish
 Greene 0.134- 1.71 1.04 .92 9.86
 Baily 0.145 1.77 1.03 .91 9.91
 Monty 0.134 1.73 1.03 .93 9.94

You can see this trend in any race were you have the data to study....we are picking hairs about 0.100 reaction time or what ever you think the human standard is....it`s not the race unless someone get a huge flyer and most of the time it is caught...and I`m not defending the false start rule, I`m a college coach who works also with open athletes so i`d like a little more leeway....but am I going to cry about reaction time..no, I`m going to coach start machanics and drive ...look were these guys are at 20 and 30 m-- --out to 55m . That's were the racing begins.I bet in more than 80% of championship races that the person with the fastest reaction time was not the winner..maybe not even in the money. Just food for thought....peace

Re: reaction times

[louise tricard](#)

[reply](#)

Posted Wednesday, Sep 10 at 6:05 PM
Wed, Sep 10 at 03:05:36 PDT

we are
 >picking hairs about 0.100 reaction time or what
 >ever you think the human standard is....it`s not
 >the race unless someone get a huge flyer and most
 >of the time it is caught...and I`m not defending
 >the false start rule, I`m a college coach who
 >works also with open athletes so i`d like a

>little more leeway....but am I going

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whoa! you may not 14 Oct 03 - 2 Apr 16

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even a factor in college-these elite athletes are feeding people)not to mention everything else

Re: reaction times

posted by: [michael lewis \(michael lewis \)](#)

[reply](#)

Posted Wednesday, Sep 10 at 6:09 PM
Wed, Sep 10 at 03:09:50 PDT

Louise I am curious have you read my earlier post and if so what do you think?

Re: reaction times

[Mike](#)

[reply](#)

Posted Wednesday, Sep 10 at 6:21 PM
Wed, Sep 10 at 03:21:01 PDT

Louise...you`re missing the point..it`s not who moves off the line first,thats not start mechnics...and you can change the reaction time to any number you want...it`s still all about " drive" and "dynamic strength" and " eccentric strength " etc ,etc...the sport is about getting out there and running well and that talks a coach and an athlete who are on a good progrem....if Drummond did`nt have a tantrum on TV no one would be talking about this in such depth..and with all due respect I do work with athletes who earn a living at this sport and we focus on the things we have control over..know who your addressing before you make a comment

Re: reaction times

[louise tricard](#)

[reply](#)

Posted Wednesday, Sep 10 at 6:32 PM
Wed, Sep 10 at 03:32:45 PDT

if Drummond did`nt have a tantrum on
 >TV no one would be talking about this in such
 >depth..and with all due respect I do work with
 >athletes who earn a living at this sport and we
 >focus on the things we have control over..know
 >who your addressing before you make a comment..you are the one who mentioned college...

comment still stands...and we've been working on this issue (fs rule) for 2 years with council...

you have no control over start?????

Re: reaction times

[Mike](#)

[reply](#)

Posted Wednesday, Sep 10 at 6:43 PM
Wed, Sep 10 at 03:43:06 PDT

If you read the original post it said college and open runners..and your hung up on " reaction times" and I`m talking about being a " starter"....we control those things...mechanics and running..we have no control over the starter and his human factoring..are

you saying we should be " guessing " the starters gun ..why not focus on what happens after the gun is fired. Take the time to read and hear what others are saying..alot of people on this site have alot to offer..both as athletes and coaches

Re: reaction times

posted by: JRM

reply

Posted Wednesday, Sep 10 at 6:48 PM
Wed, Sep 10 at 03:48:30 PDT

>This is the main problem that I have with the
>0.1 standard. Normal reaction times are
>variable from person to person, yet we apply a
>constant standard to all athletes. If the goal
>is to discourage athletes from anticipating the
>gun, then I don't see how this is fair to
> everyone.

Look, it's no doubt true that each guy who lines up at the line has a slightly different reaction than the guy next to him. The statistics account for that, but they also tell us that these average times are seldom below 0.13s.

What you're talking about is what we can call *integrated* reaction time. Someone else mentioned it's more than neural transmission time, and is the combination of movements which follow. This is all true.

However, *that* is what training can improve, and that is not a result of neurons firing. It's a result of getting the muscles moving, and training *can* improve this. The fact that one guy does it better than the other is not the issue.

The issue is how fast can anyone possibly have a first reaction to the sound. Current data suggests that this time, combined with movement, cannot be faster than 0.12s

To put it bluntly: should we also scrap the whole race because some guys move their legs faster than others?

Re: reaction times

Posted Wednesday, Sep 10 at 7:00 PM

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at 04:00:16 PDT SEP 10 2002

>start 105 metres from the finish line (or 103 you
>get the pic) and the race is timed (by computer
>and camera) from the point where the torso
>crosses the "start" line to where it crosses
>the finish line. Then let's see who actually
>runs the 100 metres fastest. There'd even be a
>little bit of interesting nail-biting going on
>waiting to find out who really ran the distance
>the fastest. "So this is really not a 100 metre
>dash" Very perceptive. It's a 100 metre dash
>from a "flying" [not really after 3 metres]
>start which removes the source of what is
>currently torrents of dissatisfaction, and makes
>the race undeniably fair.

like wearing a chip in a 5k, etc...hmmmmmmmmmm - i think i'd rather check at the greyhound park about starting gates.....

Re: reaction times

CAH

reply

Posted Wednesday, Sep 10 at 7:27 PM
Wed, Sep 10 at 04:27:44 PDT

JRM,

Is the time it takes an individual to react to sound a constant? Disregard the issue of "training" to react... In other words, for all individuals, is this a true equation?

Reaction Time = Constant + Variable

where CONSTANT is some fixed time based on the neurology that is the same regardless of sex, age, training, etc... and VARIABLE is a time that fluctuates depending on sex, age, training, etc...

If it is true, then I'll agree with your assessment. That is, if we all start with a baseline neurological reaction time, of say 0.15 sec, then any difference is due to training only. This makes sense.

However, if this is not true, then the reaction time due to neurological activity is just as variable than the training affect. So, one athlete could have a baseline of 0.15 and another could be at 0.17. In this case, then the scenario I presented earlier is still plausible.

To put it bluntly, if I line up in the blocks with Linford Christie, and he beats me out of the blocks, 0.13 sec to 0.22 sec, is it there 100 percent certainty that the difference is due to external factors alone (training, age, sex, etc...). Or, is it possible that Christie's neuron's fire a bit faster than mine (all else being equal)?

Re: reaction times

CAH

reply

Posted Wednesday, Sep 10 at 7:29 PM
Wed, Sep 10 at 04:29:50 PDT

P.S. I'm not a doctor, so forgive me if the terminology I use is incorrect. I am a mathematician and statistician, so the numbers make more sense than the medical part.

Re: reaction timesposted by: [jhc68](#)

reply

Posted Wednesday, Sep 10 at 9:19 PM
Wed, Sep 10 at 06:19:40 PDT

Of course Linford Christie's neurons fire faster, his reactions are faster and it is due to individual genetics. Otherwise, given the same training regime, you (or anyone else) could run just as fast as he did, and you know damn well that ain't gonna happen. Quickness makes sprinters, period. Eliminate all anticipation and get everyone to react to the gun and some people will consistently start faster than others. But, a fast start will not guarantee a win... even "flyers" like Armin Hary did not win races only based on the start. Hary was strong throughout the race.

Re: reaction timesposted by: [gh](#) ([e. garry hill](#))

reply

Posted Wednesday, Sep 10 at 9:58 PM
Wed, Sep 10 at 06:58:27 PDT

Nobody's saying that Christie (and other outliers) may not be faster than some others. The naysayers are saying that even he, one of the quickest-of-the-quick, isn't a sub-0.100 guy.

Here's his reaction times from the four WC 100 finals he competed in:

Rome 0.135 (second-fastest)

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average: 0.128

Probably the best of anybody in those races on average, but still a far cry from a sub-0.100, which is the point of this discussion.

Re: reaction times[steve](#)

reply

Posted Wednesday, Sep 10 at 10:12 PM
Wed, Sep 10 at 07:12:41 PDT

>Nobody's saying that Christie (and other
>outliers) may not be faster than some others. The
>naysayers are saying that even he, one of the
>quickest-of-the-quick, isn't a sub-0.100
>guy.

Here's his reaction times from the four
>WC 100 finals he competed in:

Rome 0.135

>(second-fastest)

Tokyo 0.126

>(fourth-fastest)

Stuttgart 0.140

>(second-fastest)

Göteborg 0.110

>(fastest)

average: 0.128

Probably the best

>of anybody in those races on average, but still a

>far cry from a sub-0.100, which is the point of

>this discussion.

Using this model we should be able to look at Bob Beamon's best jumps in major meets and use that as a rationale to throw out his '68 jump in Mexico City. If you say that a person is defined by his/her past performances then you aren't allowing for the occasional surprise performance. Just because Christie didn't have a reaction time in a major championship that was near .100 sec in the past doesn't mean that he couldn't in the future.

Re: reaction times

Realist

reply

Posted Wednesday, Sep 10 at 10:24 PM
Wed, Sep 10 at 07:24:39 PDT

>Using this model

>we should be able to look at Bob Beamon's best
>jumps in major meets and use that as a rationale
>to throw out his '68 jump in Mexico City.>>

No, we can throw out Beamon's Mexico City jump because it was altitude and wind aided.

Re: reaction times

[louise tricard](#)

reply

Posted Wednesday, Sep 10 at 10:39 PM
Wed, Sep 10 at 07:39:07 PDT

No, we can throw out
>Beamon's Mexico City jump because it was altitude
>and wind aided.

hey...wa and altitude reaction times may exist also...sorry, it's late!

Re: reaction times

[steve](#)

reply

Posted Wednesday, Sep 10 at 10:41 PM
Wed, Sep 10 at 07:41:16 PDT

>>Using this model
>we should be able to look at
>Bob Beamon's best
>jumps in major meets and use
>that as a rationale
>to throw out his '68 jump
>in Mexico City.>>

No, we can throw out
>Beamon's Mexico City jump because it was altitude

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Re: reaction times

posted by: JRM

reply

Posted Wednesday, Sep 10 at 11:04 PM
Wed, Sep 10 at 08:04:48 PDT

>The point is this type of statistical
>application cannot be used to determine an
>individual's capabilities in the future, and
>shouldn't be used to set limits on what
>constitutes an acceptable performance.

Improvements in performance due to better training techniques aren't the same issue. We're discussing neural signal transmission time, which is a neurophysiological phenomenon that probably can't be changed by "training", unless you genetically or chemically alter the process.

Re: reaction times

[steve](#)

reply

Posted Wednesday, Sep 10 at 11:25 PM
Wed, Sep 10 at 08:25:45 PDT

Improvements in performance due to better
>training techniques aren't the same issue. We're
>discussing neural signal transmission time, which
>is a neurophysiological phenomenon that probably
>can't be changed by "training", unless you
>genetically or chemically alter the process.

On what information are you basing this statement? The amount of time from the ears to the CNS and from the CNS to the periphery may be harder to change, but the time spent recognizing the sound and triggering the complex set of movements (all of which occurs centrally) leading to the reaction can certainly be trained. I'm not convinced that the neural transmission time couldn't also be changed through training, or decreased under certain environmental conditions (not just genetically or chemically).

This is all beside the point. The point is that an improvement can occur for no apparent reason. The person is a habitual performer at a certain level and one day pulls out a fast time or a big jump that is unexpected. MJ's 19.29 qualifies. He never came close before or since. He obviously ran really fast times but wasn't a habitual sub 19.5 performer. So did he achieve this through "improved training techniques" right before the 1996 season that he abandoned for the rest of his career? was this an outlier that wasn't expected based on a statistical analysis of all his other performances? Or, would you agree that you cannot use statistical analysis of past performance to reliably predict future performance, and therefore it shouldn't be used to provide guidelines for what constitutes an acceptable performance, whether it is a jump, a final time, or a reaction time?

Re: reaction times

reply

Posted Wednesday, Sep 10 at 11:42 PM
Wed, Sep 10 at 08:42:25 PDT

posted by: JRM

>On what information are you basing this
>statement? The amount of time from the ears to
>the CNS and from the CNS to the periphery may be
>harder to change,

Yes, that's what I'm basing the info on. You can't change the current in a wire without altering it's physical/chemical structure.

Freak incidents like 19.32 aren't in the same category.

Re: reaction times

reply

Posted Thursday, Sep 11 at 12:54 AM
Wed, Sep 10 at 09:54:35 PDT

posted by: jhc68

Ok, some one clarify for me (and some one who is or was actually a sprinter would be best)...

1)Do we REALLY suppose that very fast starters like Linford Christie are NOT anticipating the gun? If the fastest possible reaction human reaction time is postulated as .10 sec and Christie reacted in Göteborg at .110 sec, well, then wasn't he probably anticipating and doing a good job of it? Maybe he is really not a fast reactor but is a terrific anticipator?

2) No matter what the rules, when money and ego are at stake, won't competitive people ALWAYS anticipate the gun? Do sprinters go to the line with the mental set of "Gosh, I want to be sure to wait for the gun so I don't get an unfair advantage" ?

3) If we really want people to NOT anticipate, why do fans complain that tarters who hold runners "too long" are responsible for multiple false starts?

Re: reaction timesPosted Thursday, Sep 11 at 1:07 AM
Thu, Sep 11 at 10:07:32 PDT

Per Anders

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Are there really people out there who do not believe that Powell false started in the "Drummond" heat?

Re: reaction times

reply

Posted Thursday, Sep 11 at 7:54 AM
Thu, Sep 11 at 04:54:13 PDT[steve](#)

>>On what information are you basing this
>
>statement? The amount of time from the ears to
>
>the CNS and from the CNS to the periphery may
>be
>harder to change,

Yes, that's what I'm

>basing the info on. You can't change the current
>in a wire without altering it's physical/chemical
>structure.

Freak incidents like 19.32 aren't
>in the same category.

While nerves are not the same as electrical wires, and can be affected by a number of physiological events that can occur rapidly (ie, don't need days to months), and don't have to do with the nerve "physical/chemical structure" itself, this is not really important to my point. My point was that the bulk of the time spent in a reaction to a stimulus in a starting block situation is in central processing (brain and spinal cord). This time can be greatly reduced by practice and is subject to a freak performance like MJ or Beamon. The system isn't as simple as an electrical wire to the brain, one to the legs, and go. There is a complex set of occurrences in the brain needed to coordinate the sprinters actions. The message from the brain down the spinal cord is subject to being affected by inhibitory interneurons from the ongoing feedback to the brain from the periphery that occurs to evaluate the movement and make adjustments. This all occurs very quickly and can be affected in the brain by a persons experience with the movement in the past, by there mood that day and any other number of events. Peripheral nerve function could be affected by dehydration, fatigue and a myriad of things that we can't even tink of.

This is not the same as a wire. It makes sense that someone could legitimately start faster than they usually do and have it be a legit start.

Re: reaction times

reply

Posted Thursday, Sep 11 at 8:03 AM
Thu, Sep 11 at 05:03:45 PDT[louise tricard](#)

>Ok, some one clarify for me (and some one who is
>or was actually a sprinter would be

>best)...

1)Do we REALLY suppose that very fast
>starters like Linford Christie are NOT
>anticipating the gun? If the fastest possible
>reaction human reaction time is postulated as .10
>sec and Christie reacted in Göteborg at .110 sec,
>well, then wasn't he probably anticipating and
>doing a good job of it? Maybe he is really not a
>fast reactor but is a terrific anticipator?

2)
>No matter what the rules, when money and ego are
>at stake, won't competitive people ALWAYS
>anticipate the gun? Do sprinters go to the line
>with the mental set of "Gosh, I want to be sure
>to wait for the gun so I don't get an unfair
>advantage" ?

3) If we really want people to
>NOT anticipate, why do fans complain that tarters
>who hold runners "too long" are responsible for
>multiple false starts?

Re: reaction times

[louise tricard](#)

reply

Posted Thursday, Sep 11 at 8:05 AM
Thu, Sep 11 at 05:05:52 PDT

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[steve](#)

Thu, Sep 11 at 05:07:14 PDT

>What Beamon or M.J. did is totally irrelevant to
>the reaction time issue. Please re-read Garry's
>posting from Sep 8 and see what Lennart Julin
>said in '97 T&FN. That posting should have ended
>this debate.

Are there really people out there
>who do not believe that Powell false started in
>the "Drummond" heat?

It is not relevant to whether or not Drummond false started. It is totally relevant to the idea that a person's past performances shouldn't be used to determine whether or not their current performance is legit. Just because MJ never ran under 19.5 before doesn't make his 19.29 illegit. Just because Beamon never jumped over 28 ft before we can't negate the legitimacy of his unexpected 29 footer. Similarly, just because Christie never reacted faster than .120sec, it doesn't mean that his sub 0.100 is necessarily illegit.

Lennart Julin is using an athlete's past marks as a means providing parameters that officials can use validate a current performance. This doesn't allow for a freak occurrence. If were employed this method across the board there would never be a new world record because someone wouldn't be allowed to perform outside of his/her performance profile.

Re: reaction times

[Asterix](#)

reply

Posted Thursday, Sep 11 at 8:35 AM
Thu, Sep 11 at 05:35:21 PDT

Lennart
>Julin is using an athlete's past marks as a means
>providing parameters that officials can use
>validate a current performance. This doesn't
>allow for a freak occurrence. If were employed
>this method across the board there would never be
>a new world record because someone wouldn't be
>allowed to perform outside of his/her performance
>profile.

But the attempt to call a freak fast start equivalent to a freak long jump performance is not valid. If you want to bring Beamon's jump into play, then a more equivalent analogy would be to toss it out because he took off X cm AFTER the board.

I believe the argument JRM is making, is that the physical capabilities to drive powerfully and efficiently out of the blocks and to turn the legs over faster and faster through 100m, is the trainable aspect of sprinting. Getting that initial neuromuscular response to the starter's gun is not, at least not beyond some theoretical time delay (which has yet to be shown to be anywhere faster than 0.100 seconds).

Re: reaction times

Asterix

reply

Posted Thursday, Sep 11 at 10:21 AM
Thu, Sep 11 at 07:21:24 PDT

precisely what we are
>asking..(which has yet to be shown....)research
>(not in a meet-research is not done that way) on
>reaction times of world class athletes..
we are
>NOT discussing the rest of the race...that is
>another separate issue ...

For some reason I can't access the previously posted link of reaction time studies, but I believe one of them discussed the negligible improvement in reaction times through increased fitness. I guess your theory is that training to break 10.00 causes neuromuscular alterations that are not in evidence when training to break 14.00.

However, I question why meet results are not valid. One of the quoted studies demonstrated that individuals are pretty consistent in their range of reactions. Surely a decent data sampling of race reactions can provide that range?

Re: reaction times

posted by: JRM

reply

Posted Thursday, Sep 11 at 10:28 AM
Thu, Sep 11 at 07:28:22 PDT

>precisely what we are asking..(which has yet to
>be shown....)

But it **has** been shown! There has been ample statistical evidence to indicate that even amongst world class sprinters, the average reaction time is about 0.13-0.14s. I posted the average reactions for 6 such finals, and they all showed this trend. GH has posted similar data which addresses the false start rule. If they could routinely react faster, then we should be seeing averages which are correspondingly lower.



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Re: reaction times

CAH

reply

Posted Thursday, Sep 11 at 10:45 AM
Thu, Sep 11 at 07:45:38 PDT

JRM,

Is it possible that a person who has admittedly anticiapted the gun to have a reaction time of 0.13 sec?

Re: reaction times[steve](#)

reply

Posted Thursday, Sep 11 at 11:14 AM
Thu, Sep 11 at 08:14:12 PDT

>>precisely what we are asking..(which has yet to
>
>be shown....)

But it **has** been shown!
>There has been ample statistical evidence to
>indicate that even amongst world class sprinters,
>the average reaction time is about 0.13-0.14s. I
>posted the average reactions for 6 such finals,
>and they all showed this trend. GH has posted
>similar data which addresses the false start
>rule. If they could routinely react faster, then
>we should be seeing averages which are
>correspondingly lower.

If their reaction times

>were really faster than 0.10s, then the tone
>would be sounding in **every** race for multiple
>lanes. Certainly they aren't "holding back" in
>**every** one of these finals.

Do you really not understand why this line of reasoning doesn't work for making a rule with so much at stake? Do you understand the inherent differences between results obtained from a prospective study vs. a retrospective analysis? Myself and others have written both lengthy, elaborate, and short, concise responses about this. Without any good prospective studies (which would be damn hard to do) how can a rule be made that has such a big effect on competition? Better off to default on the ruling that impose something that may be wrong.

Re: reaction times[louise tricard](#)

reply

Posted Thursday, Sep 11 at 11:30 AM
Thu, Sep 11 at 08:30:43 PDT

Do you really
 >not understand why this line of reasoning
 >doesn't work for making a rule with so much at
 >stake? Do you understand the inherent
 >differences between results obtained from a
 >prospective study vs. a retrospective analysis?
 >Myself and others have written both lengthy ,
 >, elaborate, and short , concise responses about
 >this. Without any good prospective studies (which
 >would be damn hard to do) how can a rule be made
 >that has such a big effect on competition?
 >Better off to default on the ruling that impose
 >something that may be wrong.

END OF STORY!

Re: reaction times

East Ender

reply

Posted Thursday, Sep 11 at 11:34 AM
 Thu, Sep 11 at 08:34:00 PDT

The latest edition of Athletics Weekly has a quote from one Louise Tricard: 'It's hard to believe that the USA lead-off leg in two Olympic Games, who never false starts....'

Would that be the same Jon Drummond who was false-started out of the 2002 Prefontaine meet? Under the old rules I might add.

Re: reaction times

Jon Drummond

reply

Posted Thursday, Sep 11 at 12:16 PM
 Thu, Sep 11 at 09:16:12 PDT

is also the same <http://trackandfieldnews.com/tfn/discussion/viewThread.jsp?forum=1&thread=182> Go same Jon SEP
 is also started out of an indoor race while competing at Odessa Jr. College. HOWEVER, I have never false started
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Re: reaction times

Jon Drummond

reply

Posted Thursday, Sep 11 at 12:21 PM
 Thu, Sep 11 at 09:21:45 PDT

Oh, and by the way! Just in case you didn't see the race in Paris, I didn't false start there either!

Re: reaction times

East Ender

reply

Posted Thursday, Sep 11 at 12:38 PM
 Thu, Sep 11 at 09:38:32 PDT

Mr. Drummond (if that is really you, and since you have those obscure details I guess it must be): I was not in Paris, but did see the thing on the telly several times. And no, I don't think you false-started either.

The point of the post was to point out to Ms. Tricard that the use of "N" word is fraught with peril. For someone as strident as she, she should be very careful with her words. One doesn't win arguments by overstating the facts.

Re: reaction times

posted by: michael lewis (michael lewis)

reply

Posted Thursday, Sep 11 at 12:43 PM
 Thu, Sep 11 at 09:43:22 PDT

END OF STORY!

Hey Louise look out I'm under attack for using caps lock on another thread!

Really though this whole thing with Jon cannot be undone, unfortunately. Some things can, and some cannot. We cannot go back in time and recall a race. The IAAF can only go forward and change its rules, or go back in the sense that it chooses to apply its rules retroactively and fairly.

Re: reaction times

posted by: JRM

reply

Posted Thursday, Sep 11 at 12:51 PM
 Thu, Sep 11 at 09:51:01 PDT

>how can a rule be made that has such a big
 >effect on competition?

It hardly has a "big" effect on competition. If the limit were 0.12s, *then* I would agree. However, there are perhaps a handful of instances -- out of how many hundreds or thousands of races? -- where an athlete tries to contest the rule because they think they didn't false start, or can react faster than the limit, etc... However, this horrible and constraining rule has not prevented an overwhelming majority of athletes from cashing in on their talent.

Re: reaction times Posted Thursday, Sep 11 at 1:07 PM
Thu, Sep 11 at 10:07:31 PDT
[louise tricard](#)

Really though this whole thing with
 >Jon cannot be undone, unfortunately. Some things
 >can, and some cannot. We cannot go back in time
 >and recall a race. The IAAF can only go forward
 >and change its rules, or go back in the sense
 >that it chooses to apply its rules retroactively
 >and fairly.

but it would really be different if the iaaf formally "apologized" to jon (after their council meeting in november-we will show them before the meeting that a fast gun (starter violation iaaf rule 162.3 will produce a fs reading- on seiko system, this is an automatic recall 0.8 after gun -starter did not recall) ...maybe they will learn that the voice of the athlete needs to be heard some way...especially when time is of the essence (and of course, maybe this and what happened in the indoor worlds will have them change the rule back - since this is the experimental year and the experiment showed the world it failed....) did't mean to stray from reaction time...but...

Re: reaction times Posted Thursday, Sep 11 at 1:14 PM
Thu, Sep 11 at 10:14:59 PDT
[louise tricard](#)

It hardly has a
 >"big" effect on competition.

some of us think it's big even if only one person gets tossed...but when it a defending olympic champion or what you just saw in a major meet...it's big...

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Re: reaction times Posted Thursday, Sep 11 at 1:22 PM
Thu, Sep 11 at 10:22:44 PDT
 Realist

>>.why do you want someone thrown out of
 >an event and not compete??>>
 Uh, cuz they broke the rules?

Re: reaction times Posted Thursday, Sep 11 at 1:52 PM
Thu, Sep 11 at 10:52:37 PDT
[louise tricard](#)

Uh, cuz they broke
 >the rules?
 uh, what about the broken rules in lj, tj, sp, jt, hj, pv, dt, etc.....3 tries and just a little "f" in the box...no one throws them out if they foul...where have you been?????????
 wouldn't that be cute..long jumper fouls on first jump...out...hello

Re: reaction times Posted Thursday, Sep 11 at 1:59 PM
Thu, Sep 11 at 10:59:26 PDT
 posted by: JRM

Louise, you're arguing two different points (I think someone even said this before).
 Sometimes you're against the 0.1s rule, and other times (like your post above) you're against the new false start rule. So, which one is it that you're really on about?
 My guess is that if the old rule were in place, we wouldn't be having this discussion (unless Drummond false started twice a-la Christie).

Re: reaction times Posted Thursday, Sep 11 at 2:13 PM
Thu, Sep 11 at 11:13:38 PDT
[louise tricard](#)

>Louise, you're arguing two different points (I
 >think someone even said this
 >before). yeah, me

Sometimes you're against the 0.1s
>rule, and other times (like your post above)
>you're against the new false start rule. So,
>which one is it that you're really on
>about? both

My guess is that if the old rule were
>in place, we wouldn't be having this discussion
>(unless Drummond false started twice a-la
>Christie).

wrong...

(east ender mentioned athletics weekly and diverted me to the other issue) we have worked for about 3 years to:

1. keep old rule
2. get starters to follow 162.3
3. change block setting to 0.01

that's it...

Re: reaction times

Glass Pipe

reply

Posted Thursday, Sep 11 at 2:27 PM
Thu, Sep 11 at 11:27:51 PDT

> we have worked for about 3
>years to:
1. keep old rule
2. get starters to
>follow 162.3
3. change block setting to
>0.01>>



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Re: reaction times

louise tricard

reply

Posted Thursday, Sep 11 at 2:32 PM
Thu, Sep 11 at 11:32:12 PDT

>> we have worked for about 3
>years to:
1. keep
>old rule
2. get starters to
>follow 162.3
3.
>change block setting to
>0.01>>

and here i
>thought sitting in the alley blowing crack was a
>wasted life!

ain't wasted..i do it in between writing my 2nd track book....

Re: reaction times

Al in NYC

reply

Posted Thursday, Sep 11 at 2:39 PM
Thu, Sep 11 at 11:39:30 PDT

While I agree with #s 1 & 2, # 3 would essentially repeal the rule that calls for runners to start upon hearing the sound of the gun, and would mean that the race would start IN ANTICIPATION OF runners hearing the sound of the gun.

It seems to me that this goes precisely counter to the idea of having a fair start, but I'm only going by science and not emotion, so what do I know?

Re: reaction times

sleeper

reply

Posted Thursday, Sep 11 at 4:00 PM
Thu, Sep 11 at 01:00:05 PDT

I've got to agree. Setting the blocks at .01 would mean that everyone would anticipate and it would be so obvious, even to the naked eye that it would be absurdly unfair. then you are just commending whoever is able to "guess" the best, and you would have no reaction to the gun at all.

(From a Sprinter's perspective)
that being said, yes athletes do try to anticipate the gun. but i think it is a combination of anticipating and reacting. sure there are times when you sit back and wait to you are absolutely sure that you hear the gun, but other times there is a bit of anticipation factor. what do you think all those people who false start in races, especially before this new rule was put in place. Sometimes they do it well and we just call it a great start, and other times it's a bit too fast and they get a false start. I think someone

mentioned it before on this thread, but that is why you see athletes listening to a starters rythm before their heat goes.

Beyond that though, there is a lot of practice and preparation that goes into how an athlete learns to fire and react to the gun and how to get better at it. Ask J.D., I'm sure he'll tell you because he is very good at it and I've heard him talk about it before. I very much doubt that you if you put a random college-aged kid in the blocks against a elite level sprinter that they will react the same to the gun. There is also a drill that you will see a lot of sprinters doing before they race...their coach stands behind them and repeatedly says set and then claps, at differing speeds and gets the athlete to react to the stimuli as quick as possible. This would suggest that on some level part of this is trained or can be improved upon.

So I don't really know what the "fairest" answer would be. Having the threshold set at .1 does not necessarily tell you whether someone anticipated or reacted to the gun, yet that is what we are asking it to tell us.

Re: reaction times

CAH

reply

Posted Thursday, Sep 11 at 4:26 PM
Thu, Sep 11 at 01:26:03 PDT

<<My guess is that if the old rule were in place, we wouldn't be having this discussion (unless Drummond false started twice a-la Christie).>>

JRM, I think you're probably right on this. It's ludicrous that the first person is allowed to break the rules once "per race", but now one else is allowed to. (Note the emphasis on "per race", which mean in the opening rounds of the WC 100m, of the 80 participants, 10 could legaly break the rules.)

Couple that with the reaction time rule, any athlete runs the risk of being dq'ed for merely thinking about false starting. Yes, at a time roughly 0.05 seconds before the actual gun is fire, a thought enters the athlete's mind, which which fires the neurons that control the muscles that send the body forward out of the blocks. Keep in mind, though, that the athlete is only guilty of thinking too soon. The neurons are smart enough to hold the body back until after the gun.

This seems a bit extreme!

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Enough Already

Arrrghhhh!!!!!!!!!!!!

reply

Posted Thursday, Sep 11 at 5:14 PM
Thu, Sep 11 at 02:14:20 PDT

Die, thread, die!

Re: Enough Already

ANNOYED

reply

Posted Thursday, Sep 11 at 5:42 PM
Thu, Sep 11 at 02:42:28 PDT

<<Die, thread, die!>>

Hey Arrrghhhh!!!!!!!!!!!!

Wouldn't it be much simpler to just ignore the thread? Think about the time you wasted clicking on the link, waiting for the whole page to load? All this just to make an ignorant, stupid-@\$\$ remark like... "Die, thread, die!"

P.S. Thank you for wasting my time!

Re: Enough Already

OOOOGH!

reply

Posted Thursday, Sep 11 at 5:48 PM
Thu, Sep 11 at 02:48:06 PDT

die arggh, die!

Re: Enough Already

[louise tricard](#)

reply

Posted Thursday, Sep 11 at 6:04 PM
Thu, Sep 11 at 03:04:26 PDT

>die arggh, die!

hahahahahahaha....no...it seems like i have to keep it going because i was banned from another thread for hogging this one.... 2 false threads and you're out...i didn't know there were those rules on this board... and i hope you don't click on and read this...stay out!

reply

Posted Friday, Sep 12 at 7:37 AM
Fri, Sep 12 at 04:37:12 PDT

ter diagram <a

members.optushome.com.au/kpduffy/sprintlogistic.htm#100mWCReact of the reaction time v's 100m running time for the each

ion is 0.10s) - so it's reasonable to conclude it's not trainable. And equally, the IAAF 0.10 second limit looks generous.

ate.

Re: reaction times

[KD](#)

reply

Posted Friday, Sep 12 at 7:48 AM
Fri, Sep 12 at 04:48:12 PDT

Apologies for the poor formatting in my post - I goofed (and plead the newbie defence).

Image link is

<http://members.optushome.com.au/kpduffy/100mWCReact.gif>.

Re: reaction times

On pace to record

reply

Posted Friday, Sep 12 at 8:12 AM
Fri, Sep 12 at 05:12:39 PDT

Seriously folks, we're at 147 replies and counting. Have you no life? Have you no shame? What there was to say, got said about 127 posts ago. Give it up for the love of Garry!



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does not address the question of whether or not it is POSSIBLE to achieve a reaction time below .10 sec. If it is possible, then a person shouldn't be charged with a false start if they do react faster. Also, this analysis doesn't include any times less than .100 because when they occurred in the meets analyzed, they were thrown out by the starter as false starts. So it doesn't add too much in the way of useful information upon which to make a hard and fast rule.

Re: reaction times

[louise tricard](#)

reply

Posted Friday, Sep 12 at 10:24 AM
Fri, Sep 12 at 07:24:19 PDT

Also,
>this analysis doesn't include any times less than
>.100 because when they occurred in the meets
>analyzed, they were thrown out by the starter as
>>false starts. So it doesn't add too much in the
>way of useful information upon which to make a
>hard and fast rule.

yea!
glad you pointed this out..can't believe the experts who posted allowed reaction times all thru this thread did not think about this - it's glaring!!!

Re: reaction times

yap yap yap

reply

Posted Friday, Sep 12 at 10:34 AM
Fri, Sep 12 at 07:34:07 PDT

I see your lips moving but I don't hear anything new. Why don't you go and actually work on whatever changes you think are needed instead of reiterating a million times that you're right, the world is against you, and they're wrong.

Re: reaction times

[CAH](#)

reply

Posted Friday, Sep 12 at 10:44 AM
Fri, Sep 12 at 07:44:51 PDT

This I've seen before. Yes, it does show that there is very little correlation between reaction time and finishing time.

However, I'm not sure you can conclude that reaction time is not trainable. JRM is likely correct on this issue. There is still the question of what does determine a person's reaction time.

Clearly, each person reacts differently to the gun. Some are going to naturally react faster than others. Under the assumption that no one is anticipating and reaction time is untrainable, then wouldn't you say this difference is due to genetics (this may not be the correct term, sorry)?

If so, then measuring "anticipation" by the 0.100 rule is inadequate. Two runners, both of whom are going to anticipate the gun decide, at the same time, to commence their start before the gun. Because one runner's naturally slower out of the blocks than the other, there is going to be a difference in reaction times. However, both runner's are equally guilty of anticipating the gun.

I agree that a reaction time under 0.100 is an indicator of "anticipation" This holds true for nearly all athletes. Unfortunately, though, it does allow many "slower reacting" athletes to get away with anticipation simply because they naturally react more slowly to all stimuli (the sound of the gun and their own thoughts).

If you want to say "anticipating" the gun is against the rules, then that's fine. But, you have to come up with a way that catches everyone -- not just the quickest. If you can't devise such a plan, then you have to let all slip by.

Re: reaction times

CAH

reply

Posted Friday, Sep 12 at 10:47 AM
Fri, Sep 12 at 07:47:35 PDT

<<However, I'm not sure you can conclude that reaction time is not trainable.>>

Sorry, I should have added at the end of this sentence "... from this data alone"

Re: reaction times
[louise tricard](#)

reply

Posted Friday, Sep 12 at 11:13 AM
Fri, Sep 12 at 08:13:40 PDT

>I see your lips moving but I don't hear anything
>new. Why don't you go and actually work on
>whatever changes you think are needed instead of
>reiterating a million times that you're right,
>the world is against you, and they're wrong.

we are and have been for 3 years!!

INTERNET ARCHIVE
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SEP 12 2012

Let's agree to disagree and end this thread now. There are more pressing issues to discuss. We all need to jump onto the Alan Webb thread and solve all of his problems. I bet he can't wait to see the solution.

Re: reaction times

posted by: JRM

reply

Posted Friday, Sep 12 at 1:41 PM
Fri, Sep 12 at 10:41:46 PDT

>Let's agree to disagree and end this thread
> now. There are more pressing issues to
> discuss.

Look, I happen to find this discussion interesting, because it address a relevant subject from a bunch of different angles. You are free to not click on the subject "reaction times" if you don't want to.

It's not like there's a party next door and we're keeping you awake at night!

Re: reaction times
[steve](#)

reply

Posted Friday, Sep 12 at 2:23 PM
Fri, Sep 12 at 11:23:34 PDT

>>Let's agree to disagree and end this thread
>
>now. There are more pressing issues to
>
>discuss.

Look, I happen to find this
>discussion interesting, because it address a
>relevant subject from a bunch of different
>angles. You are free to not click on the subject
>"reaction times" if you don't want to.

It's
>not like there's a party next door and we're
>keeping you awake at night!

I also find it an interesting, relevant, and very important issue. I agree with JRM that those not interested are free to "get a life" and browse other threads.

Re: reaction times

Blinded By The Light

reply

Posted Friday, Sep 12 at 2:33 PM
Fri, Sep 12 at 11:33:54 PDT

I don't see it anywhere in this Board's guidelines, but hopefully the moderators will follow the unwritten rule that once a thread gets down to a back and forth argument between/among 2-3 people it's time for them to take it offline and have their own private pissing match.

And, "useless" threads can have a negative effect. There are only so many lines (15?) available on the front screen and once something gets pushed off that, it tends to die quickly, no matter how valuable it is. So if we've got yahoos arguign the same drug crap under the rubric of multiple threads, bad drives out good. Make sense?

Re: reaction times

Mannfred Mann

Posted Friday, Sep 12 at 2:43 PM
Fri, Sep 12 at 11:43:10 PDT

>And,
>"useless" threads can have a negative effect.
>There are only so many lines (15?) available on
>the front screen and once something gets pushed
>off that, it tends to die quickly

Change the 15 to 100 then.

Re: reaction times

posted by: Pego

Posted Friday, Sep 12 at 2:43 PM
Fri, Sep 12 at 11:43:22 PDT

I just discovered this thread, so here is my late contribution. The auditory evoked potential (time the stimulus travels from the inner ear to the auditory cortex) is 80-100 milliseconds. If you add the time for the sound to reach the ear, you are clearly over 0.1 sec. That proves that any faster start is clearly anticipatory.

Re: reaction times

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Wayback Machine
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14 Oct 03 - 2 Apr 16

<http://trackandfieldnews.com/tfn/discussion/viewThread.jsp?forum=1&thread=182>

Posted Friday, Sep 12 at 2:43 PM
Fri, Sep 12 at 11:43:50 PDT

>follow the unwritten rule that once a thread gets
>down to a back and forth argument between/among
>2-3 people it's time for them to take it offline
>and have their own private pissing match.

And,
>"useless" threads can have a negative effect.
>There are only so many lines (15?) available on
>the front screen and once something gets pushed
>off that, it tends to die quickly, no matter who
>valuable it is. So if we've got yahoos arguign
>the same drug crap under the rubric of multiple
>threads, bad drives out good. Make sense?

What does this have to do with reaction times?

You realize that by answering this you are getting into one of those "pissing" matches you're concerned about.

I really do think this is interesting, and so do others. If what you think is interesting is not shared by enough others to keep in the top 15 lines, please don't blame it on those of us who like to debate and be very (excruciatingly painfully) thorough. If the topic doesn't interest you then click on another. Or join in. The more the merrier. Cheers!!

Re: reaction times

steve

Posted Friday, Sep 12 at 2:46 PM
Fri, Sep 12 at 11:46:12 PDT

>I just discovered this thread, so here is my late
>contribution. The auditory evoked potential (time
>the stimulus travels from the inner ear to the
>auditory cortex) is 80-100 milliseconds. If you
>add the time for the sound to reach the ear, you
>are clearly over 0.1 sec. That proves that any
>faster start is clearly anticipatory.

Where are you getting that info from? I would like to present it to others. Thanks.

Re: reaction times

posted by: Pego

Posted Friday, Sep 12 at 2:53 PM
Fri, Sep 12 at 11:53:37 PDT

All you have to do is enter "auditory evoked potentials" in a search engine. You don't need specialized neurological literature, even though there is plenty of it readily available in libraries.

Re: reaction times[steve](#)[reply](#)Posted Friday, Sep 12 at 3:24 PM
Fri, Sep 12 at 12:24:52 PDT

>I just discovered this thread, so here is my late
>contribution. The auditory evoked potential (time
>the stimulus travels from the inner ear to the
>auditory cortex) is 80-100 milliseconds. If you
>add the time for the sound to reach the ear, you
>are clearly over 0.1 sec. That proves that any
>faster start is clearly anticipatory.

It's about 8 milliseconds, not 80-100. Just looked it up. Also, using a speed of sound of 340 m/sec and a distance from the starting block speaker to the sprinters ear of 2m(which is generous)you get about 5 msec. Add that to the eight and you get 0.011sec, well below the 0.1 limit. Even if another .005-.01sec (5-10 milliseconds) of time from the brain to the muscle is added, the time is still only 0.016-0.021 seconds.

Re: reaction times[CAH](#)[reply](#)Posted Friday, Sep 12 at 3:31 PM
Fri, Sep 12 at 12:31:26 PDT

JRM, glad to see you're still around...

I know I've asked several time, but a will ask again (perhaps in a slightly different manner).

One athlete consistently records reaction times in 0.14 sec (average) and another is consistently at 0.17 sec. How would you explain the difference? Is it mostly genetic -- one is naturally faster than the other? Or, is it mostly from training/conditioning?

Based on some of your earlier responses, I would guess that it's genetic (or, whatever the proper term is).

My position on the 0.100 standard is not that it should be lowered. You've mostly convinced me that athletes with reaction times below did not honestly react to the sound.

Wayback Machine <http://trackandfieldnews.com/tfn/discussion/viewThread.jsp?forum=1&thread=182> 14 Oct 03 - 2 Apr 16

Does this make sense?

Re: reaction times[louise tricard](#)[reply](#)Posted Friday, Sep 12 at 3:35 PM
Fri, Sep 12 at 12:35:28 PDT

It's about 8 milliseconds, not
>80-100. Just looked it up. Also, using a speed
>of sound of 340 m/sec and a distance from the
>starting block speaker to the sprinters ear of
>2m(which is generous)you get about 5 msec. Add
>that to the eight and you get 0.011sec, well
>below the 0.1 limit. Even if another .005-.01sec
>(5-10 milliseconds) of time from the brain to the
>muscle is added, the time is still only
>0.016-0.021 seconds.

nice work...i even printed it to take to the ioc sport science congress...

Re: reaction times*posted by: Pego*[reply](#)Posted Friday, Sep 12 at 3:43 PM
Fri, Sep 12 at 12:43:11 PDT

It IS 80-100 msec. Just the first part of the evoked potential (inner ear to brainstem is 10-15 msec. The second part (all the way to cortex before appreciating it) is up to 50 msec. To actually hear the sound is 80-100 msec. It is very close to visual evoked potential (retina to cortex) which is 70-120 msec. Interestingly enough, female EP's are on average about 10% faster than male's. There is a physiological basis for women to be sharper.

Re: reaction times[CAH](#)[reply](#)Posted Friday, Sep 12 at 3:49 PM
Fri, Sep 12 at 12:49:53 PDT

<<nice work...i even printed it to take to the ioc sport science congress...>>

Louise, I hope you're referring to the orginal document, and not Steve's post.

I did the Google search on "auditory evoked potentials". I didn't see anything supporting the 8ms claim. I also didn't come across anything supporting the 80-100ms claim made by Pego, either.

To Steve and/or Pego... please post a link or source. Google is great, but it would be easier to go straight to the source as opposed

to scanning 100s or 1000s of pages.

Re: reaction times

posted by: JRM

reply

Posted Friday, Sep 12 at 4:11 PM
Fri, Sep 12 at 01:11:42 PDT

>Instead, my position (which has evolved) is that
>0.100 would not necessarily catch all of
>the "anticipators" -- it could be possible that
>someone who is anticipating the gun could have a
>reaction time greater than 0.100.

Well, sure, this could always be true. Maurice Greene's second 6.39 was run with a reaction under 0.11s, and the infamous 9.78WR had a 0.104s reaction. I'm sure it's probably that these guys anticipated, and got lucky. So, we can call them "lucky anticipators". The unlucky anticipators are the ones whose anticipation comes too early.

Where is the threshold between anticipation and true reaction? That is a difficult question to answer. I would almost be willing to say that it's about 0.11s, based on all the stats I've seen, but then it might be faster, so just roll it back to 0.10s.

I don't deny there is a more fundamental problem here, but the solution is *not* to go with 0.000s, because that violates physical and physiological principles.

Re: reaction times

posted by: Pego

reply

Posted Friday, Sep 12 at 4:14 PM
Fri, Sep 12 at 01:14:03 PDT

This is the first website as you enter AEP's in the search engine.

<http://www.audiospeech.ubc.ca/haplab/aep.htm>

There is a wealth of textbooks on the EP's. What I am saying here are well established facts. Go to the library and pick up any text on EP's. Just as you cannot appreciate a visual stimulus faster than 0.07 sec, you cannot appreciate an auditory stimulus before

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13 captures

14 Oct 03 - 2 Apr 16

<http://trackandfieldnews.com/tfn/discussion/viewThread.jsp?forum=1&thread=182> Go in the future

2002

Re: reaction times

CAH

reply

Posted Friday, Sep 12 at 4:36 PM
Fri, Sep 12 at 01:36:24 PDT

"...I'm sure it's probably that these guys anticipated, and got lucky. So, we can call them "lucky anticipators". The unlucky anticipators are the ones whose anticipation comes too early."

Agreed. Anticipating the gun is an act that should be discouraged. I question the IAAF's (and all other's involved) wisdom for implementing a specific rule to catch and penalize.

Timers on the block will certainly tell us when someone has clearly left before the gun (not before the sound has reached the ear, etc., but the instantaneous moment that the starter pulls the trigger.) If the starter is consistent with his starting technique, then it becomes easier to anticipate.

Example: History tells us that a starter will fire the gun 2 (+/- 0.05) sec after all athletes are in the set position. So, athletes can easily anticipate the gun.

Solution: After the runners are set, starter presses a button which activates the start sequence. At a randomly selected time after the button is pushed (1.5 to 2.5 sec), the gun is fired. Note: While the block timers start when the button is pushed, the actual race time starts after when the gun is actually fired.

What will this do? For one thing, reaction times for anticipators are more likely to be negative. With a negative time, you false started. There's no doubt about the athletes guilt here.

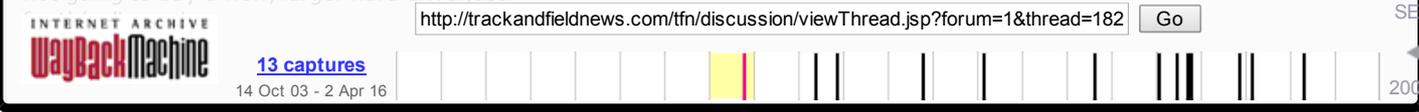
The problem today, as I see it, is that a reaction time >0 means the athlete actually left the block after the gun. Yes, the mind jumped the gun started early, but the body didn't. Athletes and coaches will always argue this.

I can still see some problems with this -- some anticipators may still slip through the cracks. But, the controversy that we saw at the WC's should be eliminated.

Otherwise, accept anticipation as a part of the race. We're kidding ourselves if we think the athletes aren't anticipating already. Like you said, some are just better than others.

Re: reaction times

Posted Friday, Sep 12 at 4:37 PM

Josh	reply	Fri, Sep 12 at 01:37:55 PDT
<p>Error: "The server's hard drives are now full due to this thread."</p> <p>Track & Field News is not going to buy a new, larger hard drive just for this discussion.</p> <p>Just joking :-)</p> <p>It's seems like people are getting upset. I don't want to read in the newspaper that someone had a heart attack because of this thread. We can't afford to lose any track fans.</p>		
Re: reaction times CAH	reply	Posted Friday, Sep 12 at 4:40 PM Fri, Sep 12 at 01:40:52 PDT
<p>"This is the first website as you enter AEP's in the search engine. http://www.audiospeech.ubc.ca/haplab/aep"</p> <p>Thanks, I did see that page and figured you had, too. I was mostly interested in where the 8ms figure came from?</p>		
Re: reaction times CAH	reply	Posted Friday, Sep 12 at 4:47 PM Fri, Sep 12 at 01:47:26 PDT
<p><<Error: "The server's hard drives are now full due to this thread."</p> <p>Track & Field News is not going to buy a new, larger hard drive just</p> <div data-bbox="89 907 1508 1019" style="border: 1px solid black; padding: 5px;">  <p>Wayback Machine 13 captures 14 Oct 03 - 2 Apr 16</p> <p>http://trackandfieldnews.com/tfn/discussion/viewThread.jsp?forum=1&thread=182 <input type="button" value="Go"/></p> </div> <p>Good one :). But hey, even though we're still 80 or so post ahead of the Alan Webb thread, their starting to close the gap over there. Can't have that, can we?</p> <p>Last I checked, the discussion has centered on why EIG, Geb, et al should or should not be running XC. Not surprisingly, Webb's was left behind at the midway point.</p>		
Re: reaction times posted by: Pego	reply	Posted Friday, Sep 12 at 5:04 PM Fri, Sep 12 at 02:04:37 PDT
<p>CAH, the 8msec. figure does not exist.If you look at the website mentioned, the first part of the auditory pathway is the brainstem response. There is at least 1.5 msec. for the potential to reach the acoustic nerve, another around 15 msec (give and take a couple msec) to reach the brainstem. 8msec is somewhere in the middle of what is called Wave I to Wave V interwave interval. Only when it's processed in the brain-stem, the potential moves to mid-brain and then to the cortex. There are several synapses along the way. It takes 80-100 msec to get from the auditory (VIIIth) nerve to the cortex.I am not even talking about the time it takes for the impuls to leave the auditory cortex and arrive to the motor cortex. That's why 0.1 sec. allowance for the reaction time is considered generous.</p>		
Re: reaction times KD	reply	Posted Friday, Sep 12 at 6:21 PM Fri, Sep 12 at 03:21:29 PDT
<p>>Also, >this analysis doesn't include any times >less than >.100 because when they occurred in >the meets >analyzed, they were thrown out by the >starter as >>false starts. So it doesn't add too >much in the >way of useful information upon >which to make a >hard and fast >rule.</p> <p>yea! glad you pointed this out..can't >believe the experts who posted allowed reaction >times all thru this thread did not think about >this - it's glaring!!!</p>		

The only way to make useful information is to analyse it - and statistical analysis is the scientifically accepted way of doing this.

There was only one reaction time between 0.1 and 0.11 seconds (out of a sample of 93, it's Bruny Surin), and even accepting that many of the 0.12 results were rounded up from something above 0.1 seconds - there's not many between 0.11 and 0.12. There were 3 disqualifications (2 in 2003) and 2 DNS' in the sample. Including these in the data set won't change the poor fit of the trend line (in fact, it makes it worse).

If you look at the graph data, there are incredibly few results between 0.10 and 0.12 secs (see <http://members.optushome.com.au/kpduffy/100mreactcumul.gif>). The average is a little over 0.14 secs. If you track individual's performance (as JRM's earlier post did for a few people), you will not find anyone consistently under 0.13 secs.

In the last 4 WC SF & F, Frank Fredicks averages 0.12 for two appearances, and Surin Bruny averages 0.132 for 5 appearances (2 below 0.13, one being the 0.101 lowest legal reaction time), Green gets two below 0.13 but averages 0.134 for 6 appearances, Boldon averages 0.138 for 5 appearances (2 below 0.13); nobody gets below 0.13 and makes more than 1 appearance in the list. The best in this list - Fredericks - was one of those DQed in semis, and next best Bruny couldn't repeat anything close to his best result. Their average performances and spread of results suggest they were anticipating - not trained to do it repeatably.

It looks quite unlikely that a reaction time less than 0.12 seconds is repeatable and hence the result of good training or a freakish natural ability.

Pego's link is good evidence. But of course, it too comes down to statistics. Not everyone's AEP will be exactly 0.0800000000 Secs. There will be individual differences. Maybe if you dig deep enough into the literature, you will find convincing peer-reviewed research that establishes the values for these AEP's and the extremes of individual differences that have been found.

For the doubting Thomases, would it be useful for the IAAF to sponsor some research measuring the AEP's of elite sprinters ? Maybe the doubters could start a fund to sponsor the research.

What the doubting Thomases have to realise is that any equipment or persons designed to arbitrate on a different rule (say 0.00 second) will be subject to random noise and other errors or limits (like how fast electrons can travel on a wire). Every physical process has such limits, and nothing measures anything with perfect accuracy. So you will get down to arguing whether 0.009 or 0.001 is a break. You could have to wonder about whether noise could be worse for athletes nearest the crowd, and might

unfairly slow their reactions by 0.02 seconds, so crowd noise could win simply by being out, silent blocks SEP
 INTERNET ARCHIVE <http://trackandfieldnews.com/tfn/discussion/viewThread.jsp?forum=1&thread=182> Go
 Wayback Machine 13 captures
 The IAAF rule provided 14 Oct 03 - 2 Apr 16 2002

beaten. It also has a comfortable margin above the 0.08 AEP limit that Pego suggests.

That to me is very fair and sound science.

In an earlier post, someone suggested having a randomly generated pause between "set" and "go". That would seem to be a neat way to eliminate any remains of anticipatory games, or possible accusations of unfair starter holds.

Maybe that's worth trying in the future, but as a fan I'd be happier just letting the new rule settle in for a longer sample size to develop before changing things again. Give the new FS rules a bit more time and the evidence will show the IAAF has done a good and fair job.

Re: reaction times

[steve](#)

reply

Posted Friday, Sep 12 at 6:27 PM
 Fri, Sep 12 at 03:27:45 PDT

>It IS 80-100 msec. Just the first part of the
 >evoked potential (inner ear to brainstem is 10-15
 >msec. The second part (all the way to cortex
 >before appreciating it) is up to 50 msec. To
 >actually hear the sound is 80-100 msec. It is
 >very close to visual evoked potential (retina to
 >cortex) which is 70-120 msec. Interestingly
 >enough, female EP's are on average about 10%
 >faster than male's. There is a physiological
 >basis for women to be sharper.

Please give the exact reference for this info. If it is true, great. I am a bit skeptical of the ability to calculate accurately the processing time beyond the brainstem, and whether or not this can be extrapolated to be representative of all populations (i.e. people who are accustomed to processing a specific sound and creating a specific movement vs. those who aren't).

Re: reaction times

[next stop 200](#)

reply

Posted Friday, Sep 12 at 6:36 PM
 Fri, Sep 12 at 03:36:50 PDT

I'm so excited - we are ever nearer 200 posts! This is now officially the most pathetic thread in history. Has ANYONE noticed that NO ONE has convinced ANYONE of ANYTHING?!

- Drummond got jobbed
- the threshold is still .10
- a & b aren't changing

Discuss at least 25 more times.

Re: reaction times

posted by: Pego

reply

Posted Friday, Sep 12 at 6:56 PM
Fri, Sep 12 at 03:56:05 PDT

Steve, as I said before, pick up any textbook (reference book) on EP's. This field of neurophysiology has been around for roughly 25 years. These numbers are well established. There does not appear much variation among different racial or ethnic groups. Females are on average 10% faster than males. Some variations among individuals exist, that's why there is a scale of those numbers. The nerve conduction of the central nervous system pathways is a lot faster then the peripheral. The peripheral nerve conduction velocities are all under 70 m/sec while the CNS exceeds 100 m/sec. Believe you me, if anybody reacts in less than 0.1 sec, he has anticipated the gun. Take care.:)

Re: reaction times[steve](#)

reply

Posted Friday, Sep 12 at 8:23 PM
Fri, Sep 12 at 05:23:56 PDT

>Steve, as I said before, pick up any textbook
>(reference book) on EP's. This field of
>neurophysiology has been around for roughly 25
>years. These numbers are well established. There
>does not appear much variation among different
>racial or ethnic groups. Females are on average
>10% faster than males. Some variations among
>individuals exist, that's why there is a scale of
>those numbers. The nerve conduction of the
>central nervous system pathways is a lot faster
>then the peripheral. The peripheral nerve
>conduction velocities are all under 70 m/sec
>while the CNS exceeds 100 m/sec. Believe you me,
>if anybody reacts in less than 0.1 sec, he has
>anticipated the gun. Take care.:)

Pego

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<http://trackandfieldnews.com/tfn/discussion/viewThread.jsp?forum=1&thread=182>

Go

to a recognized

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2002

the gun.

We have sprinters, many of them, who routinely respond 0.14 seconds after the gun. That means that while it takes .100sec to hear the gun, it only takes 0.04 seconds to decide that this is the right sound, coordinate a complex set of movements and initiate their execution. This seems way too short in comparison to the time to hearing.

So, with this in mind, then either many sprinters are habitual flase starters, or there is something wrong with the time to hearing the gun that we are using. I am not accustomed to using numbers from textbooks in this manner. These numbers may be the ones that have been used for 25 years, and they may be good for diagnosing increases in conduction time associated with certain diseases (acoustic neuromas). For that usage all you need to know is if there is a change from the normal value for that testing method. But they do not address what the actual human limits are, or even what numbers are acceptable for the application of reaction times in a sprint start. Take it easy:)

Re: reaction times

Enjoying the thread

reply

Posted Friday, Sep 12 at 10:04 PM
Fri, Sep 12 at 07:04:16 PDT

<<I'm so excited - we are ever nearer 200 posts!
This is now officially the most pathetic thread
in history. Has ANYONE noticed that NO ONE has
convinced ANYONE of ANYTHING?!>>

Yet, idiots like yourself keep clicking on the link and to put in your worthless two cents worth.

Has it ever occurred to you that the few of us who are posting and reading this thread are doing so because we find it interesting?

Should we all head over to the Webb thread and discuss how we think we know what's best for him and that the coaches and trainers around him don't know what they're doing?

Re: reaction times

almost there

reply

Posted Friday, Sep 12 at 10:10 PM
Fri, Sep 12 at 07:10:24 PDT

"idiots like yourself keep clicking on the link"

Exactly my point. Keep clicking!

Re: reaction times

Interested Bystander

reply

Posted Saturday, Sep 13 at 11:17 AM
Sat, Sep 13 at 08:17:19 PDT

GP Final numbers

Williams Bernard USA 0.136

Capel John USA 0.140

Emedolu Uchenna NGR 0.150

Collins Kim SKN 0.150

Powell Asafa JAM 0.161

Aliu Deji NGR 0.162

Gatlin Justin USA 0.170

Chambers Dwain GBR 0.176

Nice to see that when the chips are down and there's huge bucks on the line, the boys have no trouble pulling out reaction times that are right down there near the 0.100 limit, ain't it?

Re: reaction times

posted by: rmayes (Randy Mayes)

reply

Posted Saturday, Sep 13 at 2:01 PM
Sat, Sep 13 at 11:01:12 PDT

Nice to see

>that when the chips are down and there's huge
>bucks on the line, the boys have no trouble
>pulling out reaction times that are right down
>there near the 0.100 limit, ain't it?

Also notice the top 3 reaction times were also the top three finishers (in the same order they reacted in too). I know it was

printed out earlier that the fastest reaction times were anticipated.
 <http://trackandfieldnews.com/tfn/discussion/viewThread.jsp?forum=1&thread=182> applies when the SEP
 13 captures
 14 Oct 03 - 2 Apr 16

Re: reaction times

[Delay](#)

reply

Posted Saturday, Sep 13 at 10:26 PM
Sat, Sep 13 at 07:26:32 PDT

> If we accept these numbers then we are
>saying that it takes .100sec to hear the gun.

If we accept the speed of light is 300 m/sec, it would take about 0.330 seconds for light or an electrical signal to travel from a starters gun to a measuring device located at the finish line.

In hand-timed races, a stop-watch wouldn't even be started before this.

When people are disqualified for moving before 0.100 seconds, you'd hope that some effort is put into dealing with signal propagation delays - and ensuring that measuring devices are properly calibrated. Just as a human can't react in zero time, neither can the timing apparatus.

Let's assume that on-one can react faster than 0.120 seconds. Then the rule allows 0.020 seconds margin for errors. Now signal propagation over the distance from lane 1 to lane 8 could make 0.033 seconds difference - well over the margin.

You need to be sure that all the propagation delays have been scientifically accounted for.

Especially when finishers and world records end up separated by less than 0.03 seconds.

I'm guessing, but maybe someone would have to get around with synchronised high-precision atomic clocks to measure the propagation delays from each starting block and finishing line position (and perhaps to wherever the finish line slit-camera is positioned).

Does anyone know if this is what is done, or how it might be done ? Or are all these rules pretending an degree of accuracy that isn't justified ?

Re: reaction times

say what?

reply

Posted Saturday, Sep 13 at 10:36 PM
Sat, Sep 13 at 07:36:47 PDT

"Nice to see that when the chips are down and there's huge bucks on the line, the boys have no trouble pulling out reaction times that are right down there near the 0.100 limit, ain't it?"

Huh? The best of the world are trying and they did NOT even get close (relatively speaking) to .10! I see
0.136
0.140
0.150

0.150
0.161
0.162
0.170
0.176

I would expect numbers in the 0.11-0.13 range if the bottom limit really were 0.10. Looks closer to 0.12 to me. These are the best in the WORLD, trying as hard as they can to react instantaneously! 0.100 is generous.

Re: reaction times

posted by: *JRM*

Posted Saturday, Sep 13 at 11:16 PM
Sat, Sep 13 at 08:16:34 PDT

>If we accept the speed of light is 300 m/sec, it
>would take about 0.330 seconds for light or an
>electrical signal to travel from a starters gun
>to a measuring device located at the finish line.

Last time I checked, the speed of light was 300,000,000m/s.

Re: reaction times

Interesting

Posted Sunday, Sep 14 at 2:08 PM
Sun, Sep 14 at 11:08:52 PDT

Take note of those reaction times in the womens 100m and compare them to those in the mens 100m.

I am really quite surprised.

Re: reaction times

say what?

Posted Sunday, Sep 14 at 7:24 PM
Sun, Sep 14 at 04:24:49 PDT

Wayback Machine <http://trackandfieldnews.com/tfn/discussion/viewThread.jsp?forum=1&thread=182> SEP 14 2002

13 captures
14 Oct 03 - 2 Apr 16

Re: reaction times

CAH

Posted Sunday, Sep 14 at 9:12 PM
Sun, Sep 14 at 06:12:02 PDT

<<...those reaction times DO lead one to believe that .10 is the floor.>>

You're probably right. However, if the goal is to catch those who anticipate the gun, it may not be adequate. Do you think it's possible that some of the women, men, or hurdlers that were close to 0.100 were anticipating just a little bit? If so, then shouldn't they be dq'ed, or at least warned?

Re: reaction times

posted by: *tafnut*

Posted Sunday, Sep 14 at 9:20 PM
Sun, Sep 14 at 06:20:49 PDT

"Do you think it's possible that some of the women, men, or hurdlers that were close to 0.100 were anticipating just a little bit? If so, then shouldn't they be dq'ed, or at least warned?"

It's possible, but fruitless to police them, because .10 could be legit.