



Coaching

Tony Lett, Head Coach, Trishton, Coast Road,
Porthtowan, Cornwall TR4 8AQ Tel 01209 891101
tonylett1@gmail.com.



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MASSAGE ROLLERS

Those who received the first edition of Runner that came as a supplement to AW may have noticed the article on massage rollers recommended it for use on the IT Band. I would advise you to ignore this as the IT Band is in reality, a tendon and as such is not susceptible to massage, so you would be wasting your time. Tendons are best treated by stretching and in this case you could try propping yourself laterally on one elbow, either on the floor or on a chair, then letting the hip drop to stretch the tendon. Hold for about 10 seconds before lifting up for a similar period before stretching again. Do this several times.

KEEPING UP WITH THE EAST AFRICANS

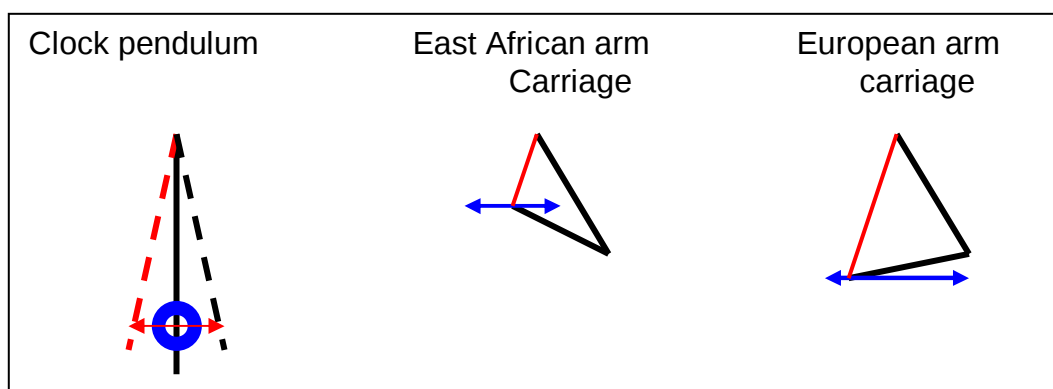
Take a look at the photograph (AW 10th Sept 2015) to compare the running styles of the two major athletes and compare the differences.

Have you spotted it?



Jo Pavey: building up to the Olympics after sitting out the business end of 2015

Now consider how the pendulum on a grandfather clock works. A weight is suspended towards the bottom of the pendulum arm and should the clock be slow, the weight is moved upwards to quicken up the timepiece by reducing the distance that the weight has to swing through; conversely, to slow the clock down the weight is moved further down. Now compare this to the arms of an East African runner to those of a European. The arm carriage of the African is high, with the elbow being the lowest point, whereas the European often has the hand and therefore lower arm, below the level of the elbow.



Comparing the arm length of the African runner to that of the clock, the effective length of the 'pendulum' is reduced, therefore the arm can move quicker and with less effort. The effort required to move the hand and arm is a product of its weight and the distance from the pivot point, ie the shoulder. Assuming a weight of say half a kilogram for the arm and hand and the pendulum length of the East African to be 0.2m and that of the European to be 0.4m, then the force required can be equated to $.0.5\text{kg} \times 0.2\text{m} = 0.1\text{kgm}$ or more correctly 1Nm, whereas the European runner will be double this, ie. 2Nm.

These are small almost insignificant amounts but multiply these by 22000 movements per arm for the marathon and you have a total of 88kN for the European runner; the equivalent of the force required to move 88kg a distance of 1m in one second.

These figures are generalization, as to be more accurate you would have to take into account the acceleration and deceleration forced applicable to the arm, furthermore, for simplicity I have used a figure of 10 rather than the more accurate 9.81 when converting Newton force to kg mass.

With less distance moved by the elbow there will be a slight difference in time from forwards to back and this is reflected in an increase in stride cadence, resulting in covering more ground in a given time. I have tried this theory out and reached 9 miles in a 10 mile race before reverting to my old style but even so, I ran a personal best.

There appears to be a choice for the distance runner.

- Stay as they are
- Increase upper body strength
- Make a change of a lifetime

READING

I am currently reading ,THE WAY OF THE RUNNER, where Adharanand Finn, the author of RUNNING WITH THE KENYANS spends 6 months in Japan to study their running, training and obsession with the long distance Ekiden relay. It is well written and is an easy read, with some incredible facts thrown in, like the 1890 runners who turned up for a 5000m. track race.

TV

There is a series at 9pm, Mondays, on BBC2 called 'The Extraordinary Making of you' which is extremely interesting.

SHOES

In the book on the barefoot runners, the author follows the progress of a tribe of runners who do extremely well; a fact which prompted the production of these shoes that fit the foot like a glove and by all accounts are very good; so it led me to thinking; we go out and buy trainers that distort the natural foot plant, then when they have worn down to suit our individual gaits, we throw them away and buy some new ones. Should we really be keeping them a lot longer I wonder?

Tony