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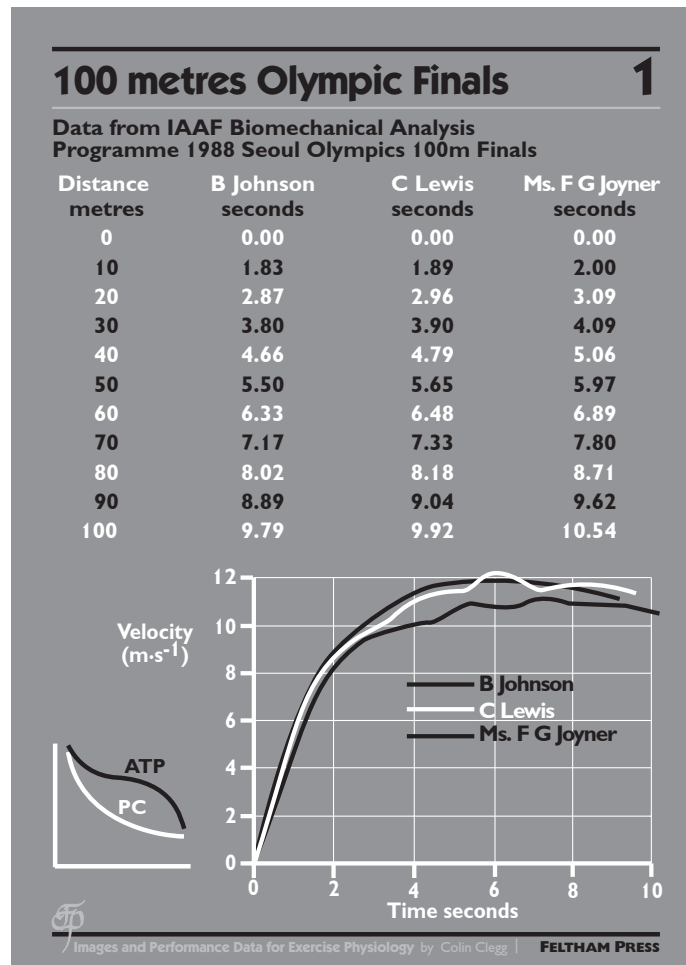
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100 metres Olympic Finals

Image 1



The levelling off, and/or dropping off, of the velocity/time curve can be interpreted on the basis of ATP/CP depletion in flat out sprint activities.

Although all energy systems contribute at any one time, the ATP/PC or phosphagen system supplies most of the energy in the first few seconds, with an increasing contribution from the anaerobic lactic system towards the latter part of the event.

The transition from one majority system to another raises discussion about the concept of 'physiological thresholds'.

The untimely death of Ms F G Joyner in 1998 at the age of 38, raised fresh speculations about drug abuse, but the autopsy revealed no evidence of such.

Interesting background points for discussion behind these performances are that; Ben Johnson was disqualified and banned as a result of a positive test for steroids, and that quite amazingly from a 'nature versus nurture' point of view, two out of the first three were Jamaican born (*Johnson(1st) running for Canada, and Christie (3rd) running for Britain*).

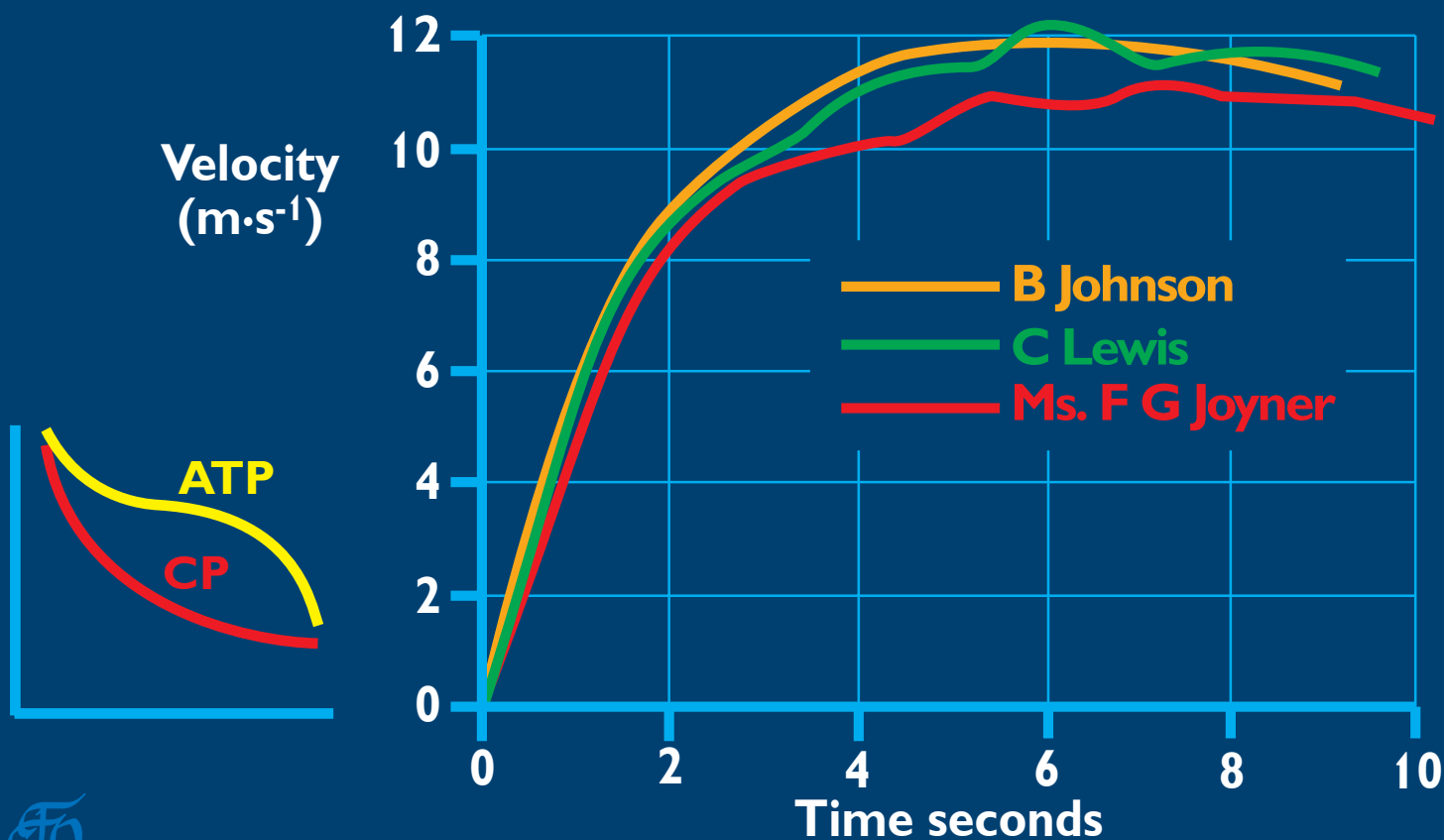
Donovan Bailey's 10 m splits in his World Record 9.84 s winning run in the 1996 Atlanta Olympics were: 1.9, 1.2, 1.0, 0.8, 0.7, 0.9, 0.9, 0.8, 0.8, 0.84; reaching a maximum speed of 12.1 metres per second (*27.1 mph*) just before the 60 metres point.

100 metres Olympic Finals

1

Data from IAAF Biomechanical Analysis Programme 1988 Seoul Olympics 100m Finals

Distance metres	B Johnson seconds	C Lewis seconds	Ms. F G Joyner seconds
0	0.00	0.00	0.00
10	1.83	1.89	2.00
20	2.87	2.96	3.09
30	3.80	3.90	4.09
40	4.66	4.79	5.06
50	5.50	5.65	5.97
60	6.33	6.48	6.89
70	7.17	7.33	7.80
80	8.02	8.18	8.71
90	8.89	9.04	9.62
100	9.79	9.92	10.54



Chicken



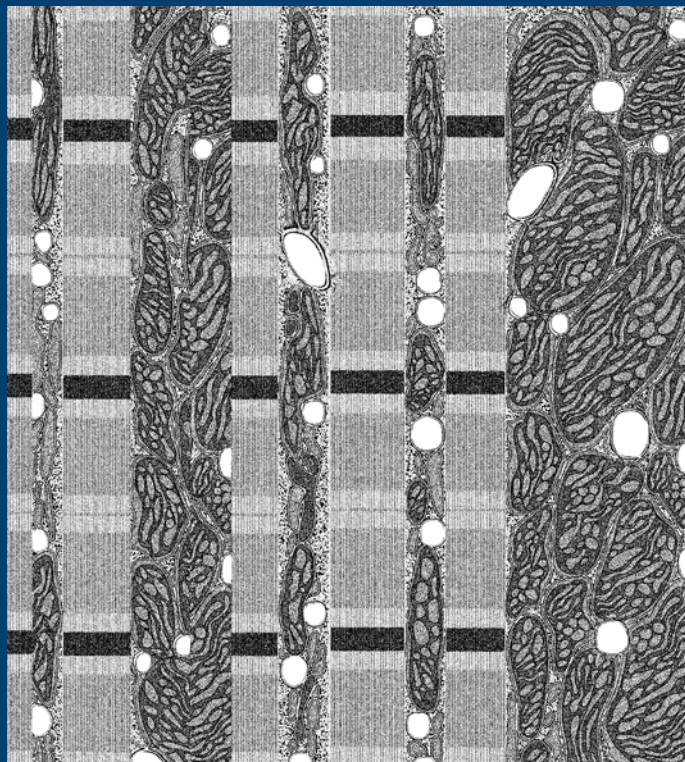
Thigh muscles of leg



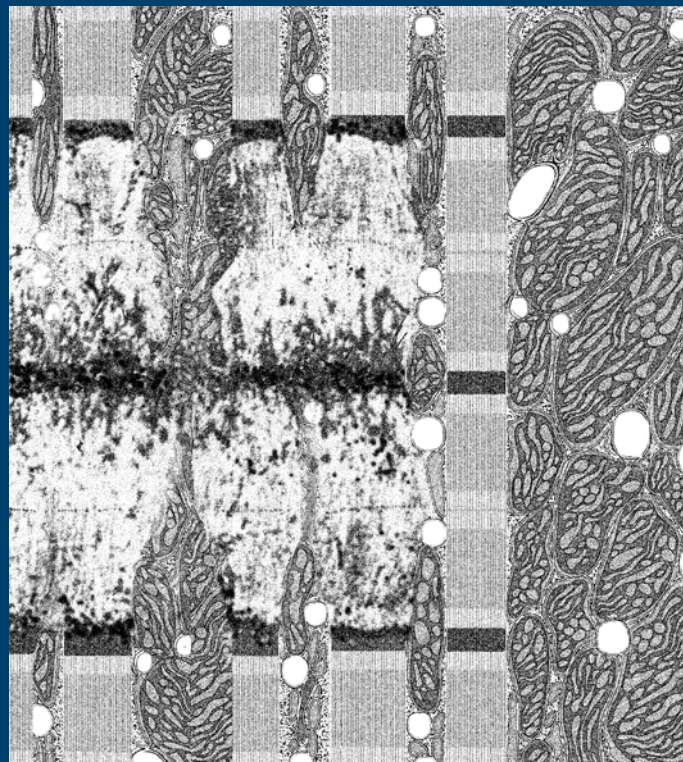
Pectoral flight muscles

Blood supply in fresh meat adds a reddish tinge to both. The bright red colour of meat in the window of the butcher's shop is due to an artificial additive to make it more 'attractive'.

Muscle damage after strenuous endurance work



Rested muscle



Muscle damaged by hours of running

Magnification x 5000

Note breakdown of integrity of fibres as a result of membrane damage.

Much of the damage caused by running occurs during the eccentric phases eg. quadriceps whilst running downhill.

Such damage results in an inflammatory reaction by the immune system.