Pistorius competes against able-bodied field Oscar Pistorius, who runs with carbon fibre blades after having both legs amputated below the knee, is to take on the world's best athletes while the IAAF decides if his prosthetic leas give him an unfair advantage "CHEETAH" PROSTHETIC VERSUS BIOLOGICAL LIMBS 1. FOOT STRIKES Quadriceps GROUND Ablebodied runner: Ankle. Calf Pistorius: calf. knee and quadriceps absorb Blade compresses. impact, storing energy storing energy 2. MID STANCE Gluteus and Gluteus Calf muscle quadriceps maximus begins muscles to fire. must All lea produce Stored muscles twice energy of energy in blade moves provide able-bodied locomotion to front edge runner 3. TAKE OFF: Blade Foot pushes off releases leg generates energy like over twice a spring. Only 80% energy stored in of stored first enerav impact released Socket: RECORD COMPARISONS Time (seconds) Snug fit to leg Competition 400 metres 200m 100m Foot: Carbon 2004 Olympic gold, men 44.00 19.79 9.85 composite Pistorius' records 46.34 21.58 10.91 Spikes 2004 Olympic gold, women 49.41 22.05 10.93 Picture: Getty Images Sources: Ossur, IAAF @ GRAPHIC NEWS