This study aimed to examine the effects of application of kinaesthetic tapes on plantarflexor muscle performance. We hypothesised that taping of the triceps surae muscle would improve plantarflexor muscle strength and endurance with no significant effect on drop jump performance. Using a repeated-measures design, all performance measures were obtained in 24 volunteers on two separate occasions: without tapes and after application of kinaesthetic tapes. Performance tests included measurements of isometric plantarflexor muscle strength and the associated electromyographic activity of the gastrocnemius muscle, an isokinetic fatigue resistance test (30 contractions at 180° · s⁻¹) and assessments of drop jump performance. The taping-intervention was associated with an increase in gastrocnemius electromyographic activity. However, significant increases in isometric strength were only found at fully dorsiflexed ankle positions (+12% at −20°). Strength gains were negatively correlated to baseline strength (r = −.58). The intervention did not affect the results of the isokinetic fatigue and drop jump tests. The application of kinaesthetic tapes over the triceps surae muscle promotes an increase in isometric strength and gastrocnemius muscle activity. Our data suggest that these effects are joint-angle dependent and more prominent in weaker individuals. By contrast, the taping-intervention improves neither drop jump performance nor muscular endurance.