In a rat model of reflex epilepsy, sound-induced or audiogenic seizures (AGS) are initiated by and propagated through excessive activity of inferior colliculus neurons. Because more auditory system neurons respond to onset of sound rather than a continuing sound, we examined the effect of sudden (SO) and gradual (GO) onset intensity of seizure-triggering sound on AGS severity. Long-Evans rats were primed for AGS using loud sound when they were 18 days old and were tested for seizures using loud noise when 32 days old. SO and GO groups of 10 rats, matched for AGS severity, were then tested three times for AGS. Overall, rated seizure activity was 39% more severe in GO than SO rats (p<.05), and the duration of clonus for GO animals was 28% longer than for SO rats (p<.05). While latency to clonic seizures was 24% longer in GO than SO rats, this was an artifact of the sound gradually reaching AGS-inducing intensity for the GO group. Because sensory neurons respond to change, sudden onset sound may allow more adaptation of AGS-prone inferior colliculus neurons than a gradual onset seizure-inducing stimulus. Ramping to a maximum intensity sound may produce greater seizure severity due to a greater number of neurons remaining active.