

Shock waves have been used in medicine for more than 30 year. At the beginning was mainly use for lithotripsy, but today is also applied in other fields of medicine, such as orthopedics, rheumatology and others. Single shock wave is one shock that usually is repeated every 1-1.5 seconds. By contrast tandem shock waves are two shocks consecutively (ideal interval between shocks is from 8 to 15 microseconds), that are repeated. In this work we investigated the clinical use of single and tandem shock waves that are generated entirely new source. It is based on the principle of multichannel discharge. It was found that a single shock wave can destroy the union between bone and bone cement, this effect could be used in orthopedics. Single and tandem shock wave can damage the tumor in vivo, but the principle damage is different. Tandem shockwave is able to cause damage in a depth of acoustically homogeneous medium and enhances the effect of chemotherapy. It would therefore be possible to used single and tandem shock waves in oncology either alone, or their combination with other chemicals. Functional sample of clinically usable applicator of shock waves with a new source was made for these applications.