

Abstract Submitted
for the OSF12 Meeting of
The American Physical Society

Comparison of mechanism of break up and cycle length in defibrillation success NATALYA MELKUS¹, STEFFAN PUWAL, Oakland University — Heart fibrillation is an often fatal condition which can be modeled by chaotic electrical activity; spiral waves of electrical activity rotate, break-up, and meander on tissue. As they do, they produce a chaotic distribution of electrical activity, negatively affecting physical contraction (blood pumping). Fenton, *et al.* studied several mechanisms of this wave breakup, including “far from tip” and “Doppler shift.” We used Fenton *et al.*’s mathematical model and the different modes of breakup proposed by Fenton to simulate fibrillation and to determine if the cycle length of the activity or the type of mechanism was more significant in defibrillation. Our data supports the conclusion that the cycle length is the more important factor in defibrillation.

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Date submitted: 23 Aug 2012

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