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Taysseer Sharaf*, tsharaf@mail.usf.edu, and **Chris Tsokos**. *Artificial Neural Network for Competing risks using Bayesian Learning*.

In the current study, we introduce a new method of utilizing artificial neural network (ANN) in modeling survival data of competing risks. We used Bayesian learning for a neural network to estimate the weights of ANN and to select the best ANN model. The proposed method is used to study the risks associated with patients diagnosed with melanoma (skin cancer). Patients' information diagnosed with melanoma in the united states from the year 2000 to 2010 were gathered from the Surveillance, Epidemiology, and End Results Program (SEER). We used Harrell's c-index to compare between various models of ANN. (Received September 16, 2014)