**Technology to help track spread of cancer cells**

In a first of its kind, integration between technology and medical fields, scientists are using the equations Google employs to predict the Web pages users visit to track the spread of cancer cells throughout the body. It is based on an assumption that each of the sites where a spreading or metastatic tumour could show up is analogous to the web pages. Google ranks web pages by the likelihood that an individual would end up visiting each one randomly. These findings are based on the trends of millions of users by analysis from the web using “steady state distribution”. Steady state distribution is similar to the metastatic tumour distribution that shows up in the autopsy datasets. The dataset contains information about autopsy patients from the 1920’s to 1940’s, who died before chemotherapy was available. By focusing on these patients, the researchers tracked the natural progression of cancer without different treatments interfering with the data. These inferences are based on details from Paul Newton, a mathematician at the University of Southern California, who has been working at the Scripps Research Institute. Out of the fifty metastasis sites described in the autopsy reports, scientists found that most of them contained cancer cells that seem to have spread from the lungs. Just like with a person browsing the web, cells that break from the original lung tumour and entered the bloodstream have a certain probability of progressing to the different locations. Learning from the Google’s example with search results, researchers estimated that average time it takes the cancer to spread to the different parts of the body was less. The lymph nodes are the quickest to be affected by metastasizing lung cancer cells, and then adrenal gland and lastly liver.

Cancer is the one of the top reasons for death all around the world and hope and every year thousands of life are lot due to this disease. There have been lot of researches done on the disease and still there are none of the solution that has been brought out that can say that it will prevent the spread of the disease or stop them. Chemotherapy is the most common method but the heat that generates is uncontrolled and also there is no solution to the damage of the healthy cells. Hopefully, this merger of technology will bring about the solution of the long sought after disease- Cancer. This shows the next century will always have technology at the center stage of any discovery.