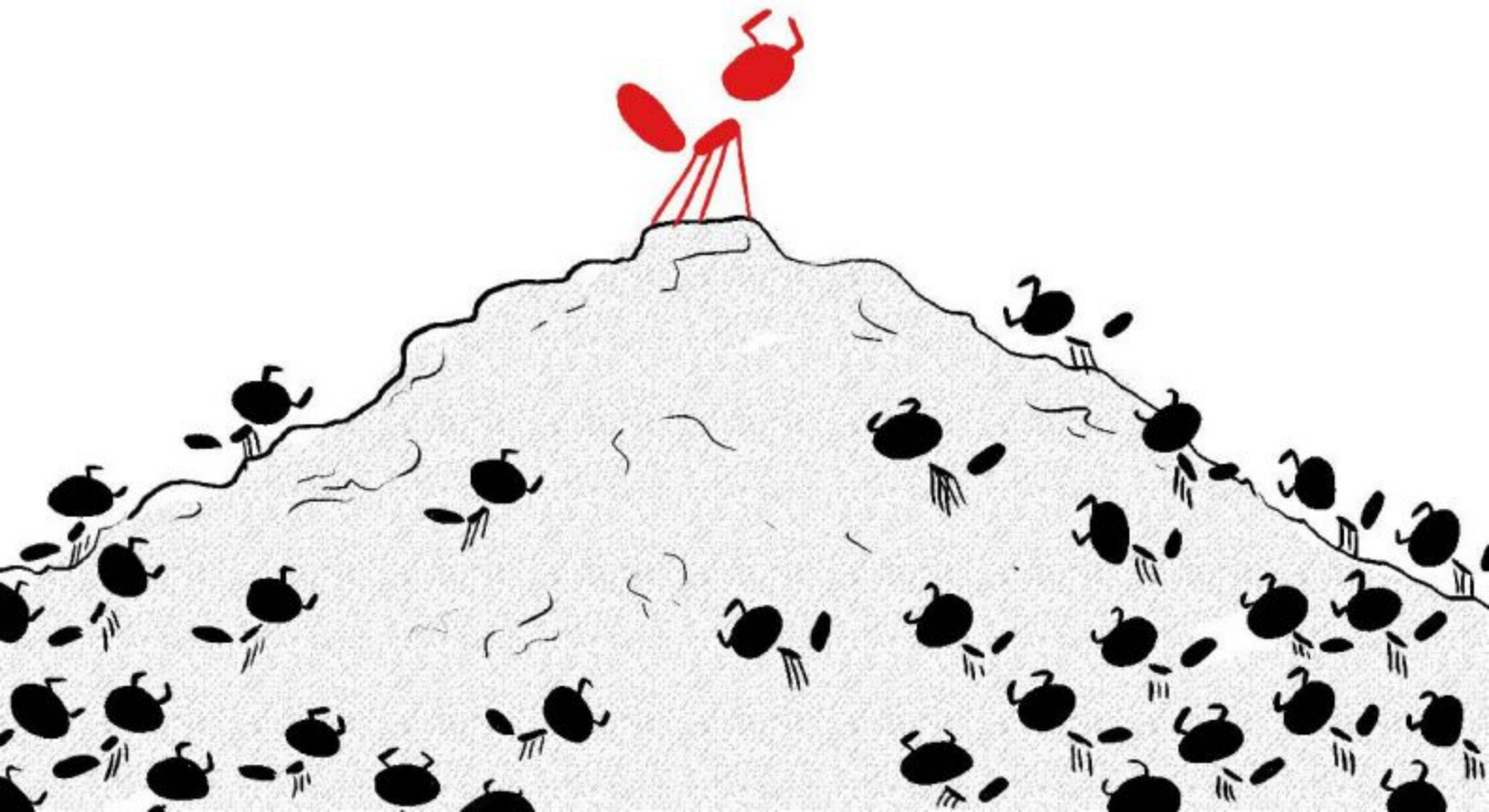


Revealing the **RED ANT**

Understanding a Blood Test
for Cancer

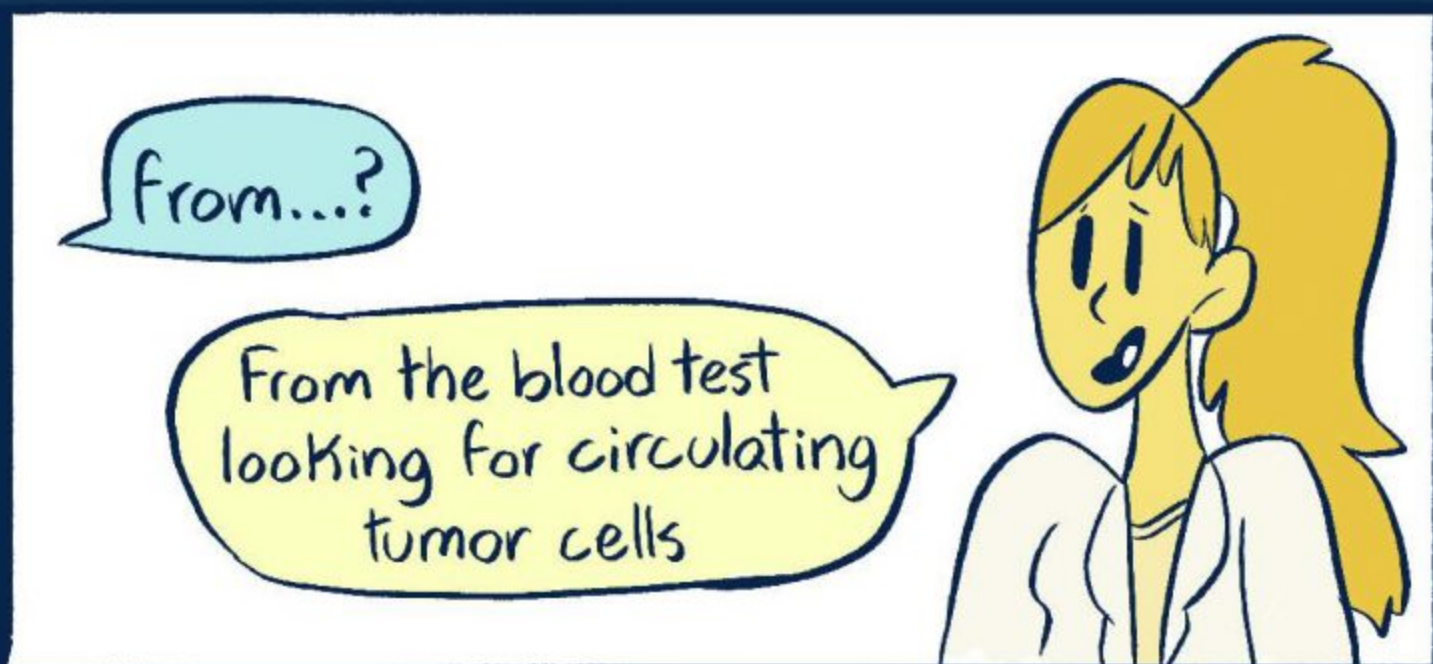


Revealing the Red Ant

is a short comic geared to explaining the clinical significance of a blood test for cancer and the future potential uses. Cancer spreads from the primary site to other places in the body by a process called **metastasis**. This process is mediated by circulating tumor cells (or CTCs) and other soluble factors. CTCs in the blood are a rare 1 in 1,000,000 occurrence, leading to a needle in a haystack problem of finding them.

The HD-SCA workflow, developed by the Kuhn/Hicks laboratory, is used to understand cancer's basic unit of disease, the cell. We interrogate patient blood samples to understand cancer biology, one cell at a time, evaluating the cellular morphology, functionality, and mutational frequencies. BY using a non-invasive blood sample as a source of information we can evaluate disease status, inform treatment selection, and monitor response to therapy. Through early detection and screening can we increase survival and save lives!







You are positive
for cancer cells
in the blood



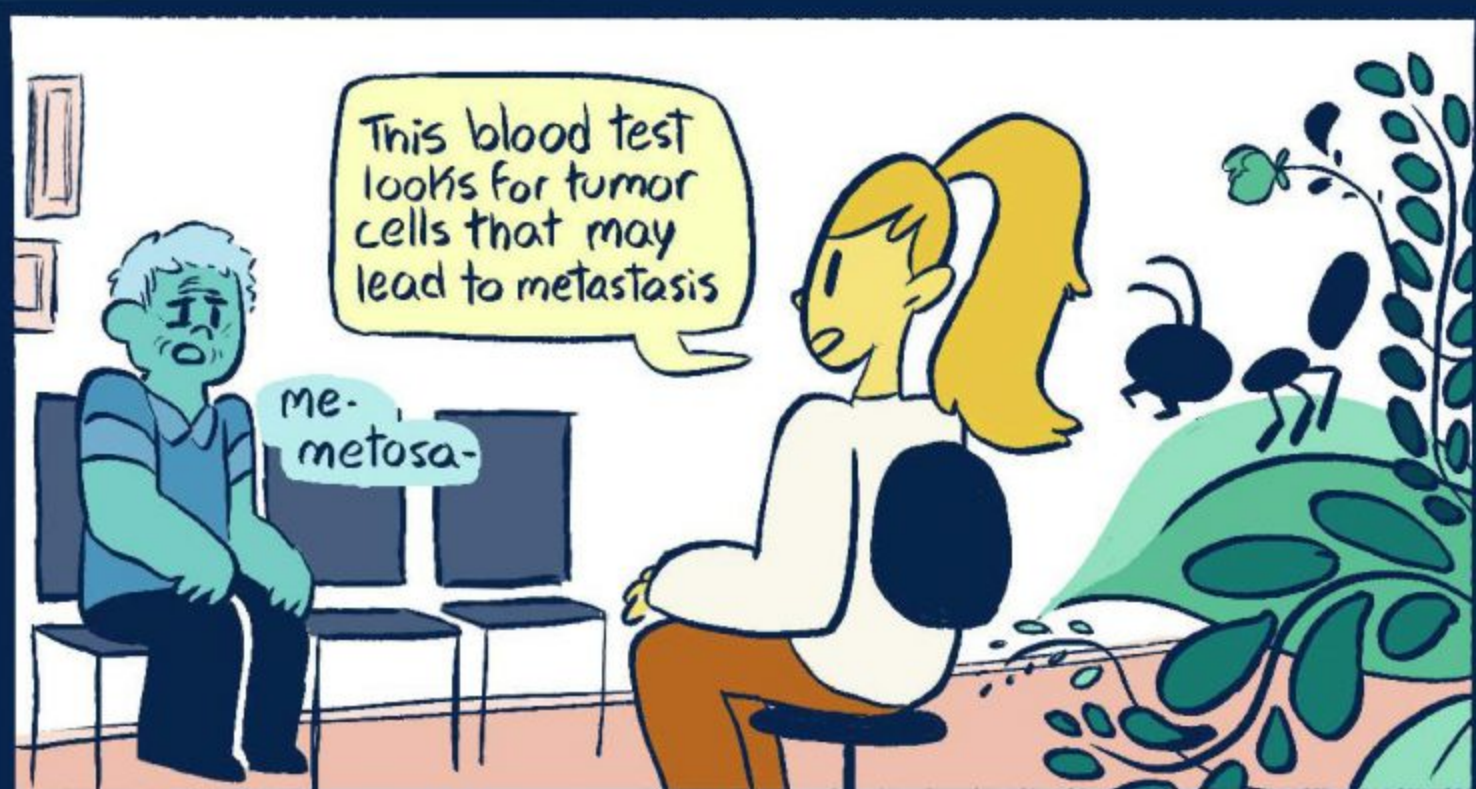
What this
means is-

that we have found
circulating tumor cells,
or cancerous cells,
in your blood

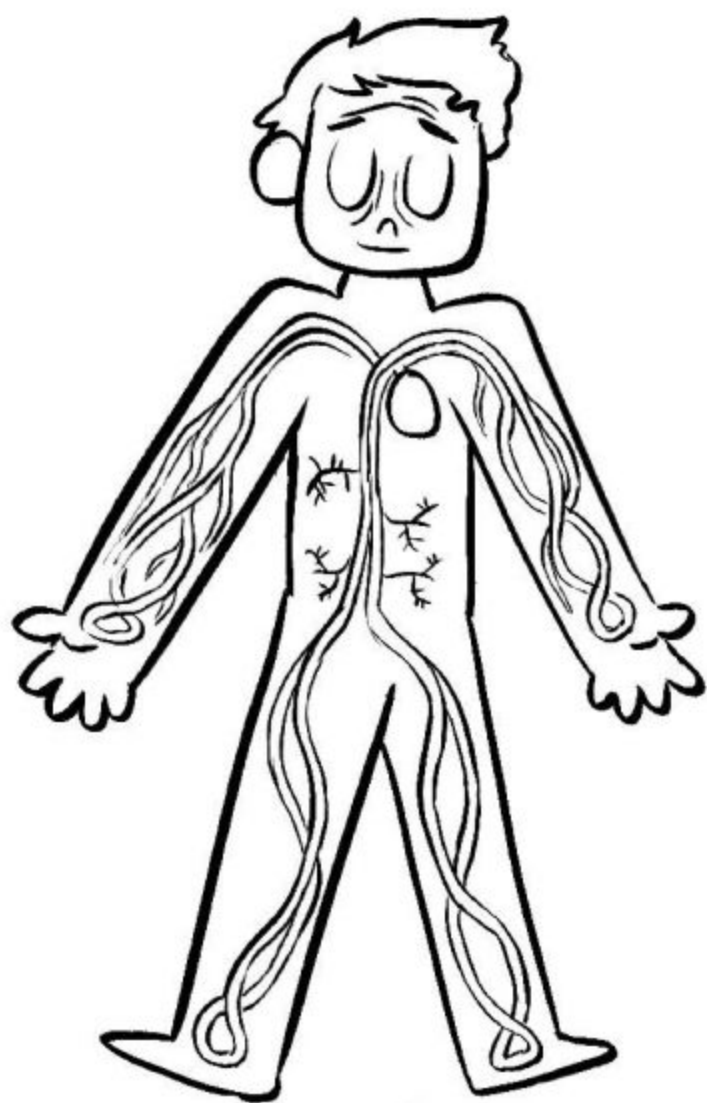


So we
would like
to take
action
and start
treatment!

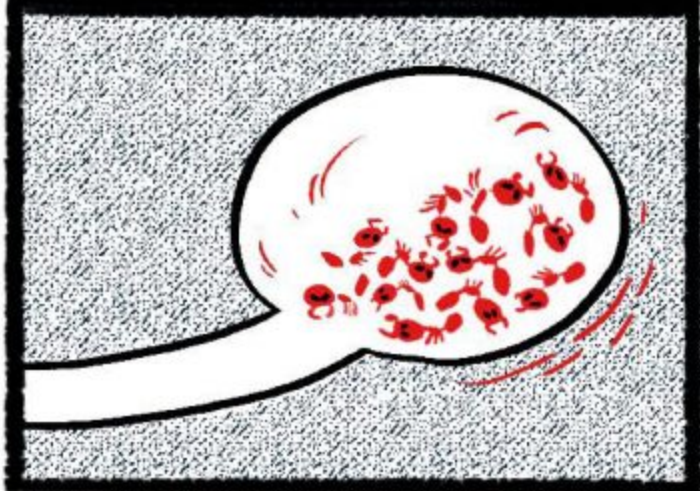




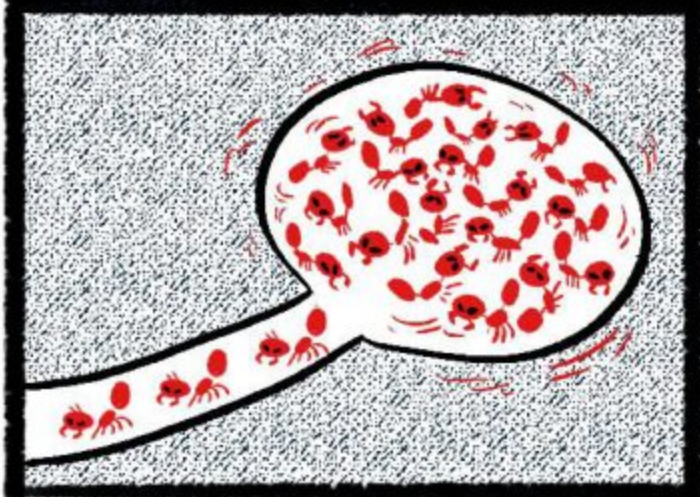
Let me explain further



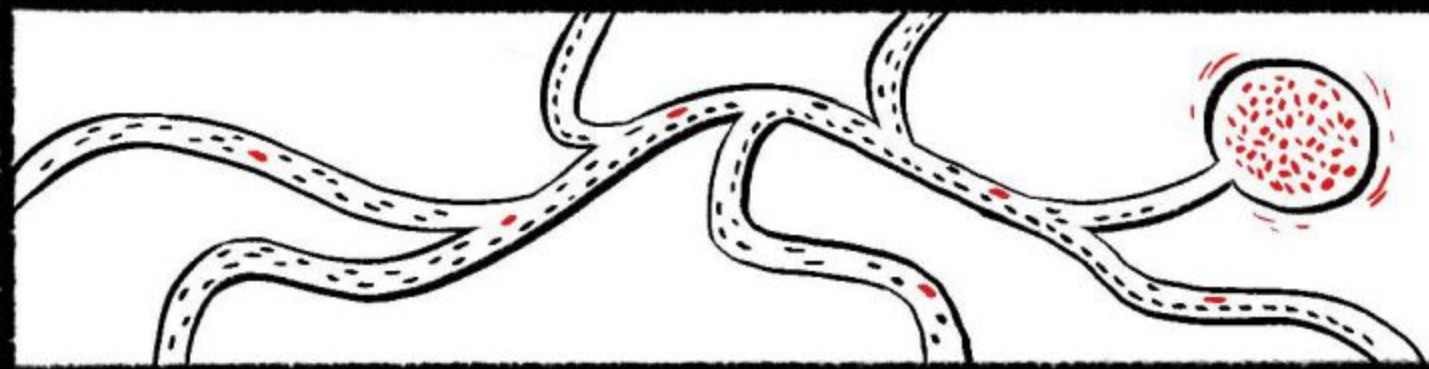
When a tumor grows and becomes more aggressive



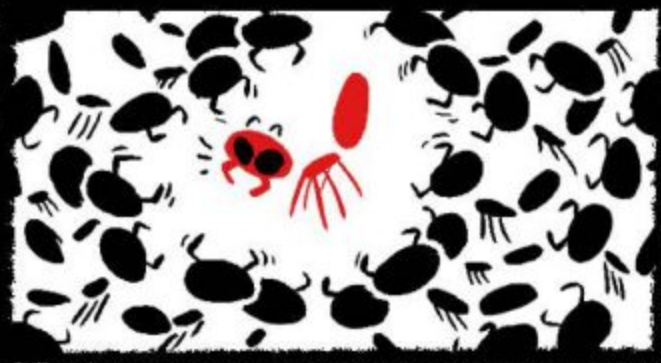
... and begins to spread



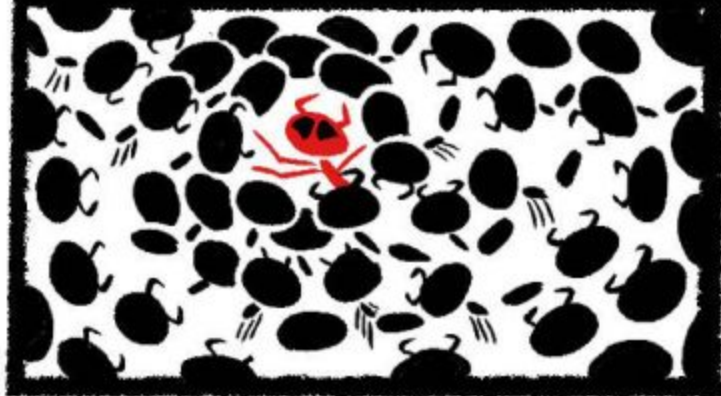
...cancer cells move to other parts of the body via the blood



If your body could recognize these cancer cells as bad



it would eliminate them

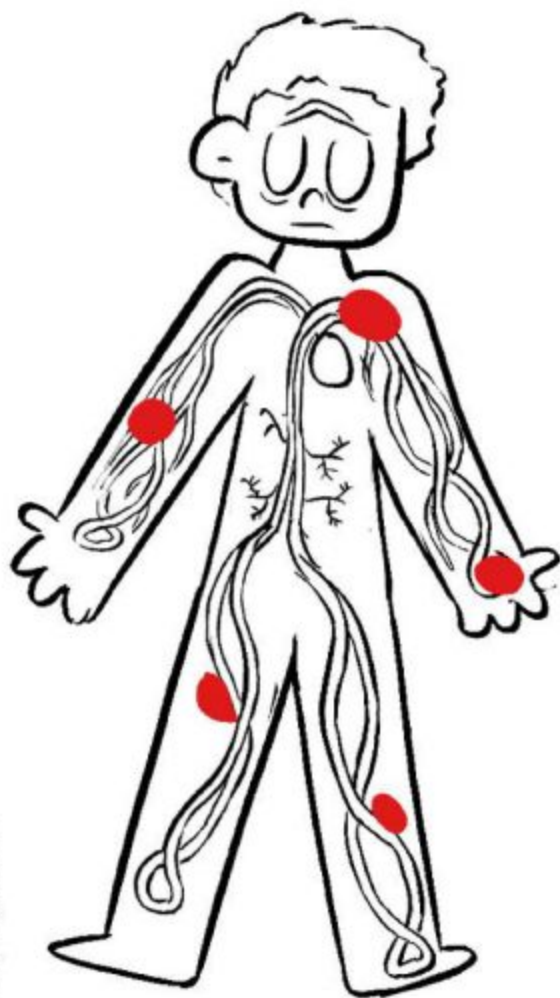
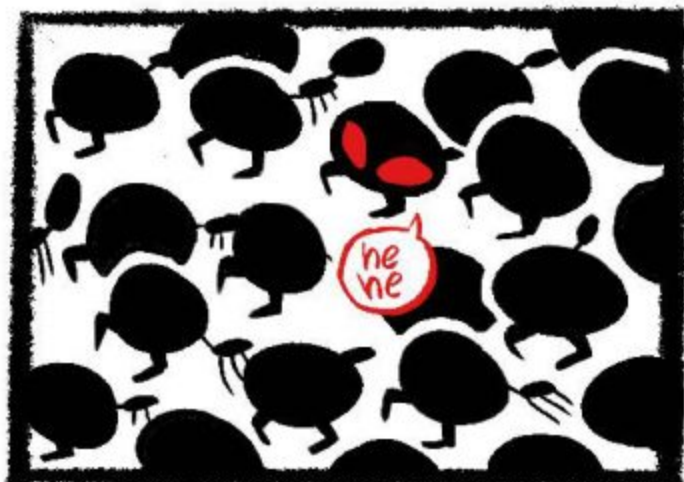


But your body thinks these cells are normal

he he
he

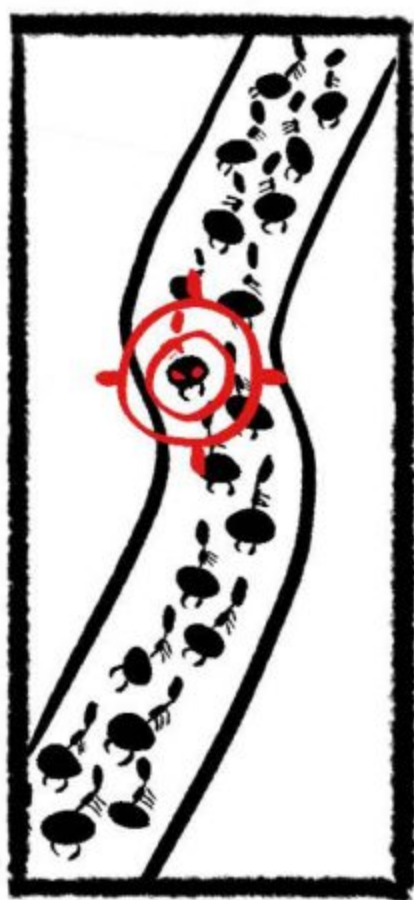


They'll
never
notice me!

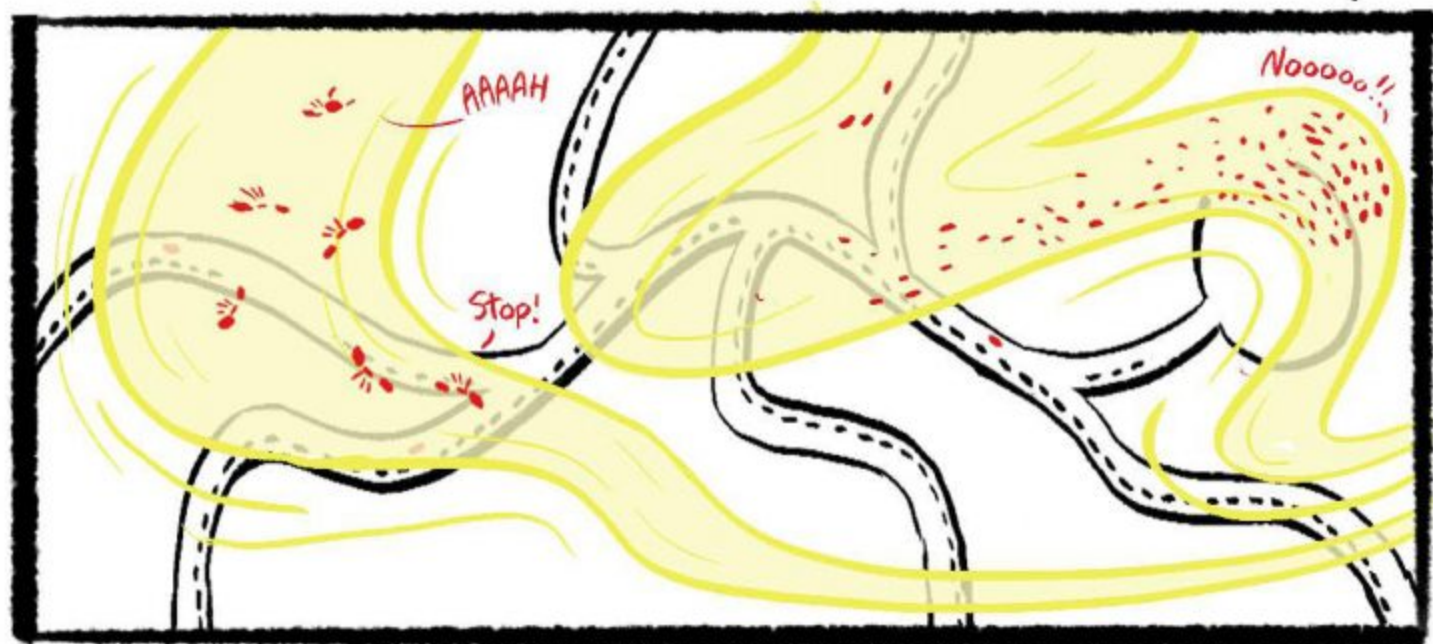


So they are not destroyed and are able to spread to new areas of the body and form new tumors.

This blood test recognizes these cancerous cells in the bloodstream, before we can detect new tumors.



So we can start treatment immediately!





The Kohn/Hickis laboratory aims to improve cancer patient care and outcomes by integrating patient clinical data and single cell data to understand cancer as a dynamic system that is constantly changing in both time and space at the cellular, human, and population levels. Current cancer testing has risk of late detection and overtreatment! Due to this, we focus on using a simple blood sample to learn about the disease in each patient across the time continuum. Through the use of historically available data and single cell data collected from these blood samples, we have to be able to predict how well a patient will do on treatment, allowing them to make more informed decisions with their care provider.

With the goal of providing patients with hope for the future and certainty about their cancer care, we use internet-based technologies to connect and help patients around the world securely and anonymously share their data. This enables them to better understand the status of their own health and cancer while comparing their journey to that of other people in a similar situation. This also enables researchers to use newer data in real time, which could speed up cancer research and lead to greater impact in patient care and outcomes.

Making a difference in cancer patient lives is a great challenge, but today we have concrete opportunities to do so! For more information visit us at Kuhn.usc.edu

Program Director:

Kyle McClary

Written By:

Stephanie Shishido,
Megan Simon, Hannah Bosnian

Scientific Advisor

Stephanie Shishido

Illustrated By

Hannah Bosnian

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