

Metastasis: A Roadmap

Metastasis — the spreading of cancer from its original location to a new location — can be broken down into three main stages: dissemination, dormancy, and outbreak. Memorial Sloan Kettering researchers at the Alan and Sandra Gerry Metastasis and Tumor Ecosystems Center are making advances in understanding each of these three stages.

1 Dissemination

Cancer cells continually break off from original tumor and enter blood circulation. Most die, but some may linger in the body for months to years at a time.

2 Dormancy

Treatment can kill most of these cancer cells, but some survive and go dormant, like seeds. Dormant cells periodically wake up and start to divide. The immune system sees and kills these dividing cells, but dormant ones escape.

3 Outbreak

Over time, these escapee cells develop traits that enable them to adapt and survive in a new location. They cling to blood vessels and trick the body into thinking they are a wound that needs to be healed. This is how metastatic tumors grow.

