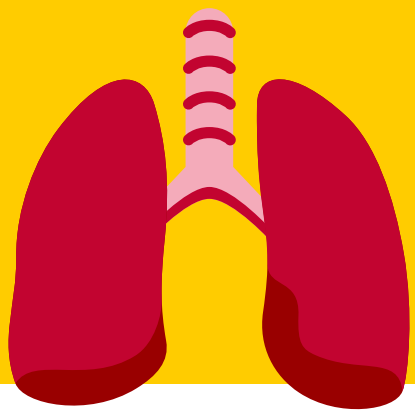
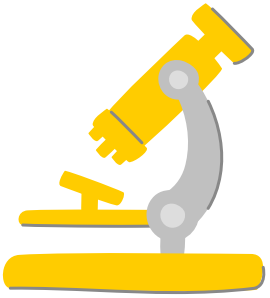


# The Use of Fluorescent Dyes to Evaluate Sentinel Lymph Nodes During Surgery for Dogs with Lung Tumours

Dr Michelle Oblak

## WHAT IS A CLINICAL TRIAL?

A veterinary clinical trial is a research study involving client-owned animals with the ultimate goal to advance animal and human health care! An interventional clinical trial allows us to measure outcomes through data and sample collection of a new or novel therapeutic approach compared to one that is standard of care. These studies evaluate new and improved ways to prevent, diagnose or treat diseases.



### WHAT IS SENTINEL LYMPH NODE MAPPING?

In the field of veterinary oncology, identification of metastatic disease is critical for determining the extent of disease, prognosis and for developing treatment plans. For many cancers, the first place of spread is to the local lymph nodes. The first lymph node the tumour drains to is called the **sentinel lymph node (SLN).** Mapping of SLNs allows us to identify and assess the draining lymph nodes of a tumour. This is critical for many cancer types, as metastasis occurs via the lymphatics. Failure to identify and assess the SLNs can lead to incomplete treatment, worse prognosis and poor patient outcome.

### WHAT IS THE PURPOSE OF THIS STUDY?

The objective of this study is to evaluate new techniques for identification of SLNs before surgery and during surgery in dogs with lung tumours.

Currently in veterinary patients, there are limited protocols in place to identify SLNs. Development of these protocols could help to identify pulmonary lymph nodes, in addition to ensuring accurate evaluation of the most important lymph node(s) for making follow-up treatment recommendations improving patient prognosis and outcomes for dogs diagnosed with solitary lung tumours.

**INCLUSION CRITERIA**

Dogs with a single lung tumour ≤5cm and interested in pursuing CT & Surgery

**EXCLUSION CRITERIA**

Multiple lung tumours, markedly enlarged (or confirmed metastatic) lymph nodes

### FINANCIAL INCENTIVE

The cost of anesthesia during the specialized CT (1/2hr), chest x-ray, ICG and NIRF camera and additional anesthesia during surgery (1/2hr) is covered by the study (~$1500 total value).

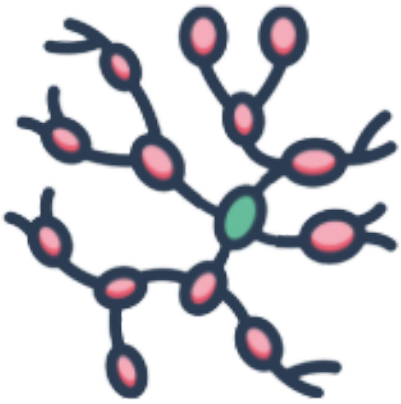
If your pet completes the entire study, you will also be provided with a $1000 credit on your account.

This study is generously funded by: **OVC Pet Trust** and **the Animal Health Partners Research Chair in Veterinary Medical Innovation.**

1

After consultation with the OVC Oncology and/or Surgery service, your pet will undergo a routine CT scan for staging and surgical planning.

In addition to receiving a contrast agent intravenously, always performed for these cases, we will also inject a similar agent locally into the lung to identify the SLNs.



2

Your pet will be monitored for several hours afterwards to ensure there are no complications and have a follow-up chest x-ray performed.

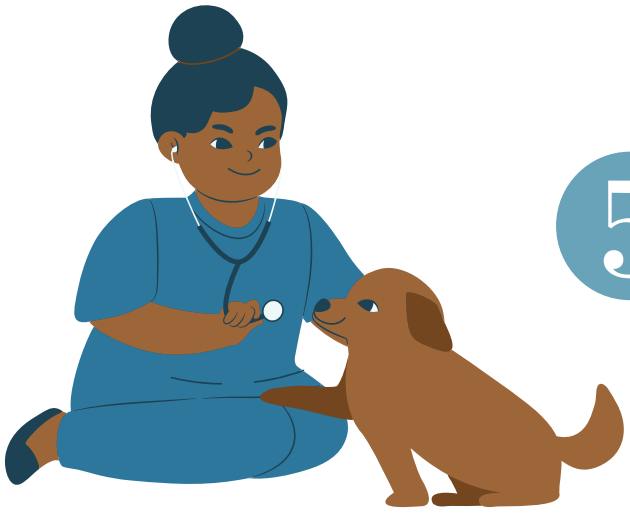
3

Within the week, your pet will undergo surgery.

During surgery, a special dye called indocyanine green (ICG) will be injected at the tumour site and a near-infrared fluorescence (NIRF) camera used to make the tumour and lymph nodes 'glow-in-the-dark.'

4

Comparing what is visible in white light to what glows under NIRF, Dr Oblak will remove both the tumour and any fluorescent SLNs.



5

Your pet will recover in ICU under careful monitoring and be discharged to your care ~48 hours later.

Collected samples will be assessed by a pathologist and compared to data obtained during surgery.

UNIVERSITY of GUELPH
ONTARIO VETERINARY COLLEGE
CLINICAL TRIALS

**Questions about this study?**
**Please contact us at:**
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