

## Courses available from Elaine Vickers, 2022

### General courses on the science behind targeted cancer treatments & immunotherapy:

**1 Targeted treatments & immunotherapy for solid tumours: demystifying the science (1 day or 6 x 45minute webinars)**

**Description:** This course gives cancer nurses and trials staff the knowledge and confidence to discuss targeted cancer treatments with patients and colleagues. The focus of the day is on cancer biology and the science behind licensed treatments for solid tumours, including monoclonal antibodies, small molecule kinase inhibitors and immunotherapies.

**2 Introduction to personalised cancer medicine (1 day or 6 x 45minute webinars)**

**Description:** Elaine first of all introduces the scientific concepts that underpin the concept of precision medicine. She looks at the features of cancer cells that we can target, the treatments available, and the tests and technologies needed to match targets with treatments. She also provides examples of where a precision approach is already being used. Elaine then turns her attention to the limitations and current realities of precision medicine. Elaine describes why a precision approach isn't always possible or might not give the best outcome for a patient. She looks through the results from various precision medicines trials as examples and looks at the difference between expectations and reality.

**3 A beginner's guide to cancer immunotherapy (½ day or 3 x 45minute webinars)**

**Description:** This course begins with an introduction to the relationship between cancer and the immune system. Various concepts behind immunotherapy are explained, such as the importance of cytotoxic T cells and of white blood cells such as regulatory T cells and myeloid-derived suppressor cells. Checkpoint inhibitors are described in detail, as are some of the lessons we have learned from trials that have included thousands of people with a wide range of cancer types. The course also covers CAR T cells and vaccine-based treatments.

**4 Immunotherapy for solid tumours (½ day or 3 x 45minute webinars)**

**Description:** The focus of this course is on cancer's relationship with the immune system, and how this knowledge is being used to improve the outlook of people with various solid tumours. Elaine focuses much of her attention on the checkpoint inhibitor group of immunotherapies, which include PD-1, PD-L1 and CTLA-4 targeted antibody therapies. Elaine will describe how checkpoint inhibitors boost cancer-fighting T cells. She'll also highlight some of the lessons learned through the hundreds of clinical trials with checkpoint inhibitors that have taken place over the past decade. In the latter part of the morning Elaine explains other technologies, such as vaccine-based treatments and oncolytic viruses.

**5 Immunotherapy for haematological cancers (½ day or 3 x 45minute webinars)**

**Description:** The course focuses on two main groups of treatments. The first group are the antibody-based treatments that attach to the surface of cancer cells and then attract and activate white blood cells through various means. Elaine describes "naked" antibodies like rituximab, as well as other antibody-based strategies, such as drug-conjugated antibodies, bi-specific antibodies, and bi-specific T cell engagers. The second group of treatments that Elaine describes are CAR T cell therapies, in which some of the patients own T lymphocytes are harvested, modified, and then returned to their body. Elaine explains the science behind CAR T cell therapies, progress made to-date, and strategies to improve on results so far.

## Courses about specific types of cancer

### 6 Targeted treatments and immunotherapy for breast cancer (4 x 45minute webinars)

**Description:** Elaine provides an overview of the cellular and genetic makeup of breast cancer and explains the science behind targeted treatments in use and in development. Includes an overview of hormone treatments and chemotherapy as well as HER2-targeted treatments and CDK4/6 inhibitors. Novel strategies for triple-negative cancers are discussed, such as PARP inhibitors and immunotherapy with checkpoint inhibitors.

### 7 Targeted treatments and immunotherapy for lung cancer (1 day or 6 x 45minute webinars)

**Description:** This course describes the faulty genes, pathways and proteins that drive small cell and non-small cell lung cancer. It also explains the scientific rationale behind targeted treatments and immunotherapies in use and in development for these diseases, including the progress made with checkpoint inhibitors such as nivolumab, pembrolizumab and durvalumab. Other treatments covered include inhibitors of EGFR, ALK, ROS1, B-Raf, HER2, MET, FGFR and Trk proteins, and angiogenesis inhibitors.

### 8 Targeted treatments & immunotherapy for melanoma (½ day or 3 x 45minute webinars)

**Description:** This course covers the biology and genetics of malignant melanoma and the science behind the latest treatment approaches. Both B-Raf/MEK inhibitors and checkpoint inhibitors are explained and the latest trial data is presented. The course also includes an overview of novel treatments such as antigen and DNA vaccines and other agents in early phase trials.

### 9 Targeted treatments & immunotherapy for haematological cancers (1 day or 6 x 45minute webinars)

**Description:** This course introduces the unique cellular and genetic features of haematological cancers. It covers a range of targeted treatment approaches in use and in development for these cancers, including monoclonal antibodies that target CD20 and antibody-drug conjugates such as brentuximab vedotin and inotuzumab ozogamicin. It also includes treatments that target FLT3, Bcl-2 and B cell receptor signalling, and treatments for multiple myeloma such as immunomodulators, proteasome inhibitors and antibodies. The science behind CAR T cell therapy is described, including the prospects for using this strategy against a range of haematological cancers.

### 10 CAR T cell science for nurses (½ day or 3 x 45minute webinars)

**Description:** This course introduces nurses to the scientific concepts that underpin CAR T cell therapy. It is ideal for nursing teams who already deliver CAR T cell therapy or who will do so in the near future. The course includes an introduction of immunotherapy approaches using immune effector cells. It also includes an overview of the CAR T cell process, an in-depth look at the CAR protein, the results obtained from trials so far, and reasons for resistance, relapse, and side effects.

### 11 Targeted treatments & immunotherapy for bowel cancer (½ day or 3 x 45minute webinars)

**Description:** This course provides a description of the faulty genes and proteins that drive colorectal, head and neck, oesophageal, gastric, pancreatic and liver cancer. It also provides an overview of targeted treatment approaches (such as angiogenesis inhibitors, EGFR and HER2-targeted treatments) and immunotherapy using checkpoint inhibitors. The progress made in each cancer is described.

## **12 Targeted treatments & immunotherapy for ovarian cancer (½ day or 3 x 45minute webinars)**

**Description:** This course begins with an overview of the gene mutations and other defects that drive ovarian cancer (including fallopian tube and other primary peritoneal cancers). It also examines how this knowledge impacts treatment choice and explains the science behind chemotherapy and PARP, B-Raf and angiogenesis inhibitors. The day also includes the potential of immunotherapy and novel approaches for treatment, screening and patient monitoring.

Please contact Elaine ([elaine@sciencecommunicated.co.uk](mailto:elaine@sciencecommunicated.co.uk)) if you would like to discuss how any of these courses can be adapted to your training needs.