

## NGS Chemotherapy Nursing Team



The NGS treatment area is an outpatient area specialising in oncology and haematology cancer, providing patients with a number of anti-cancer therapies including chemotherapy.

Patients visit the NGS treatment area to start new treatment, receive follow up treatments or to be reviewed in clinic by visiting oncologists from Weston Park, visiting urology professors, palliative care consultants, haematologists and clinical nurse specialists.

### Visiting Oncologists

- Dr Din (lead oncologist) - renal and prostate cancers
- Dr Bates- lung cancers
- Dr Dewdney- colorectal cancers
- Dr Mohanamurali- breast cancers

Each oncologist will have either one or two registrars or specialist registrars working alongside them.

### Haematology team-

- Dr Welch (lead haematologist)
- Dr Toth
- Dr Leuff
- Dr Faulkner
- Dr Beshti

The Haematology team works with a team of specialist nurses:

- Angela Gascoigne
- Tracey Small
- Lucy Boardman

We work closely with Hasland Ward which specialises in haematology and administers haematology chemotherapy. There is a nurse educator- Keri Comins who is based on Hasland but works training staff on the NGS once a week.

### **NGS Nursing team**

- Carly Starkey- Lead Chemotherapy Nurse/Matron
- Amy White- Sister
- Mark Wilson- Staff Nurse
- Lynn Burroughs- Staff Nurse
- Rebecca Hallam- Staff Nurse
- Yovana Ward- Staff Nurse
- Wendy Hanson- HCA
- Elaine Fisher- HCA

### **Opening Times and Visiting Procedures**

Monday- Friday 08:30-17:00

However this is not set in stone as clinics and treatments can overrun and do quite often. All staff are expected to work flexibly and fairly, we will accommodate shift requests however our priority is to ensure patients are cared for safely and effectively.

Staff work a variety of shift patterns depending on their contracted hours.

Whilst patients are having intravenous anti-cancer treatments they can be accompanied by 1 visitor. Due to the nature of the treatments we deliver we advise all visitors must be aged 16 or over.

### **Introduction to oncology, haematology and chemotherapy and anticancer treatments**

#### **Oncology**

Oncology is the diagnosis and treatment of solid tumours. Treatment can include; chemotherapy, radiotherapy, surgery and biological therapies.

The solid tumour sites we treat on Cavendish suite include; breast, colo-rectal, prostate, renal and lung.

## **Haematology**

Haematology is the diagnosis and treatment of conditions related to blood.

Treatment can include; chemotherapy, radiotherapy, surgery and biological therapies,

The haematology conditions we treat on Cavendish include; lymphoma, myeloma, multiple myeloma, chronic lymphocytic leukaemia, Hodgkin lymphoma, non-Hodgkin lymphoma and t cell lymphocytic leukaemia.

## **Blood Components**

Blood is made up of cells; red blood cells (RBC), white blood cells (WBC), platelets and plasma cells.

- Red blood cells- contain a protein called haemoglobin (Hb); this transports oxygen around the body.
- White blood cells- fight infections and bacteria in the body.
- Platelets- help the blood to clot and therefore prevent excessive bleeding.

All of these blood cells are produced by the bone marrow which is the spongy tissue found within your bones.

## **Anaemia**

Anaemia is when the HB (haemoglobin) is low and not enough red blood cells are produced. Haemoglobin transports oxygen around the body therefore when it is reduced the body's tissues become starved from oxygen which ultimately effects functionality. The main symptoms of anaemia include; shortness of breath, severe tiredness and visibly pale.

## **Leukaemia**

Leukaemia is when the bone marrow over-produces abnormal white blood cells, the part of the immune system which defends the body against infection. There are a number of leukaemia's; they are named according to which type of white blood cell is affected and whether it is chronic or acute.

Acute leukaemia's begin suddenly often within days or weeks and they quickly become progressive requiring urgent treatment. Chronic leukaemia develops more slowly over many months or even years.

The four main types of leukaemia are:

- Chronic Myeloid leukaemia
- Acute Myeloid leukaemia
- Chronic Lymphocytic leukaemia
- Acute Lymphoblastic leukaemia

Another type which is less common is hairy cell leukaemia.

Symptoms of leukaemia include; severe tiredness, abnormal bleeding e.g. bleeding gums, weight loss, frequent infections, bruising, pale skin

## **Lymphoma**

Lymphoma is a cancer of the lymphatic system. The lymphatic system is part of the immune system; it protects us from infections and disease and drains fluid from the body's tissues. There are two types of lymphoma; Hodgkin's Lymphoma and Non-Hodgkin's lymphoma. Lymphoma cells generally start to grow in the lymph nodes, lymph nodes and vessels are in all areas of the body therefore lymphoma has the potential to start anywhere in the body. The most common lymph nodes that produce lymphoma cells are; the neck, axilla, groin and chest. There are two types of lymphoma;

- Hodgkin's lymphoma
- Non-Hodgkin's Lymphoma

Only about 20% of lymphomas diagnosed are Hodgkin Lymphomas. In Hodgkin's Lymphoma the leucocyte blood cell becomes abnormal; they keep dividing and grow out of the body's control. Over time, the number of lymphoma cells increases and they form a tumour. Lymphoma cells can also spread to other organs in the bloodstream. When the cells reach a new area, they may go on dividing and form a new tumour. Hodgkin lymphoma can also occur in body organs. In some people it can affect the spleen, liver, lungs or bone marrow.

Non-Hodgkin's lymphoma is the fifth most diagnosed cancer in the UK. There are many types of NHL, some grow very slowly and may not require treating for a number of years, and some do not require treatment at all. However some grow quickly and require urgent treatment. What differentiates the two lymphomas is the type of cell affected

Symptoms include: swollen glands, fever, night sweats, weight loss and tiredness.

## **Myeloma**

Myeloma is cancer of plasma cells, these plasma cells are found in the bone marrow therefore wherever there is bone marrow there is a potential for myeloma. It can occur in a number of places, this is called multiple myeloma.

Symptoms include: chronic back pain, tiredness, frequent infections and also weakening of the bones caused by the myeloma cells.

## **Treatments administered on NGS Chemotherapy suite**

### **Chemotherapy**

Chemotherapy involves the use of cytotoxic drugs to destroy cancer cells. Cytotoxic chemotherapy drugs disrupt the way cancer cells grow and divide but they also affect normal cells. These healthy cells can usually repair damage caused by chemotherapy but cancer cells can't and eventually die. There are 100s of chemotherapy drugs and they a number of them can be given at the same time making up a particular regimen of treatment. For

example to treat breast cancer three chemotherapy drugs Epirubicin, Flurouracil and Cyclophosphamides are given together creating the regimen- FEC.

### **Anti-cancer treatments**

Not all treatments for cancer are chemotherapy. There are also monoclonal antibodies, Proteasome inhibitors, biological therapies and supportive therapies.

### **Monoclonal antibodies (MABs)**

Monoclonal antibodies locks onto a protein called CD52 which is located on the lymphocyte (type of white blood cell). This triggers the body's own immune system to attack the cell and destroy them.

### **Proteasome Inhibitors**

Proteasomes are a group of enzymes found in all cells in the body, they control cell function and growth. By interfering with the proteasomes it causes cancer cells to die and may stop them from growing

### **Biological therapies**

Biological therapy involves the use of living organisms, to treat disease. Some biological therapies for cancer use vaccines or bacteria to stimulate the body's immune system to act against cancer cells.

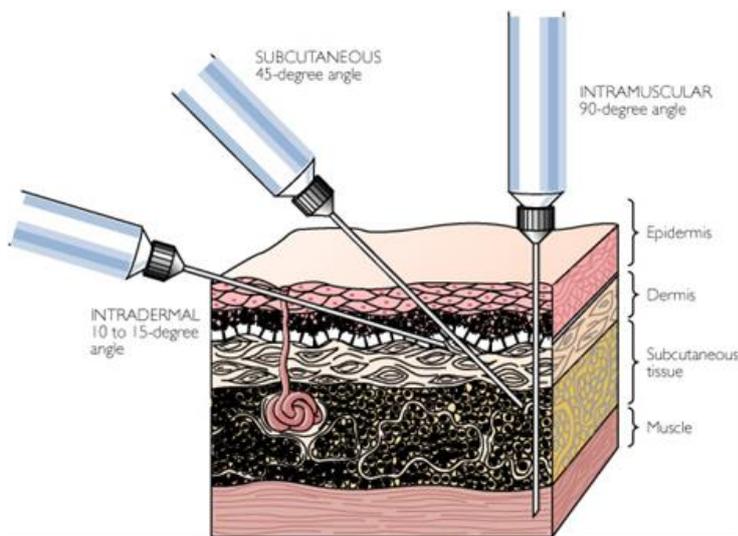
### **Supportive therapies**

These can include a number of treatments provided to control symptoms such as pain, anxiety etc.

## Administration of anti-cancer therapy

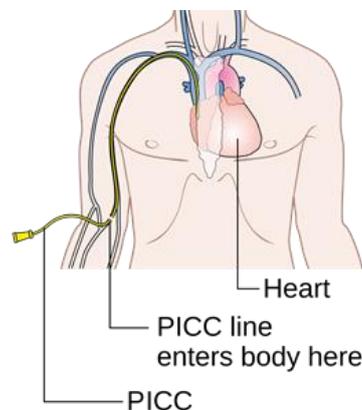
There are a number of administration routes that we use to administer anti-cancer treatments.

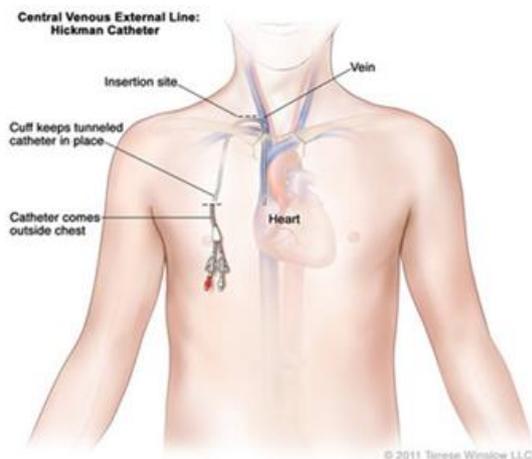
- Peripherally- small needle placed into a vein
- Oral- treatment is administered in tablet or capsule form
- Subcutaneous- injection via a needle into the subcutaneous tissue- usually the abdomen or thigh
- Intramuscular- injection via a needle into the muscle- buttocks are most commonly used



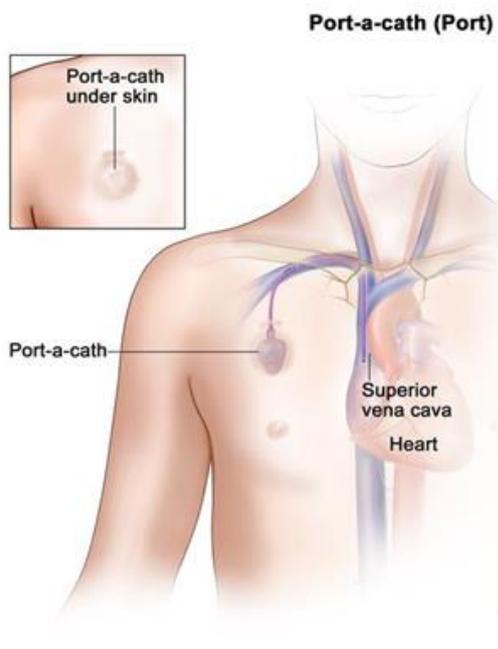
Anti-cancer treatment can also be administered via Central Venous Access Devices (CVAD's) these devices include;

- **PICC lines**- small, hollow line threaded through a large vein from the top of the arm into the superior vena cava (SVC) in the heart





**Hickman Lines**- a hollow tube that is inserted through a vein in the chest and placed into the SVC



**Porta-caths**- a small port implanted under the skin in the chest, it is accessed by a needle being gently pushed through the port which then acts as a catheter

All staff require specific training before they are able to access any of these CVADs.