Neuroendocrine Cancer UK
(Formerly NET Patient Foundation)

Effects of Treatment
Chemotherapy & Targeted treatments

Chemotherapy is a cancer treatment where medicine is used to kill cancer cells.

Targeted Molecular Therapies are drugs or other substances that work against cancer by interfering with specific molecules that are involved in the growth, progression, and spread of cancer.

Both treatments can also have an effect on healthy cells - which may lead to complications such as:

- **Fatigue -** may be due to other potential effects of treatment such as possible anaemia, the increased energy requirement your body needs to deal with repair and recovery or simply the time it takes. For example, these treatments can require a more regular attendance at hospital for several weeks or months (the appointment itself may only take minutes, but unless you live nearby and / or have your own transport, each session can involve a whole day out).

- **Bone marrow suppression -** these treatments can have an effect on how well the bone marrow continues to produce blood cells. We need healthy blood cells to deliver oxygen and nutrition around our body, help fight infection and also repair damage and prevent bleeding. If bone marrow production of cells is reduced this can lead to anaemia, reduced immunity, delayed healing and bruising/bleeding.

- **Altered liver or kidney function -** both the liver and kidneys are involved in the regulation , filtering and elimination of waste products in our bodies, including products within the bloodstream. Substances from damaged tumour cells and the breakdown of treatment products, once they have done their job, need to be eliminated from the body - and the liver and kidneys are vital in this. However, sometimes these substances can cause damage to healthy liver and kidney cells - leading to reduced function.
  NB some chemotherapy drugs may also lead to a change in urine colour and / or odour.

- **Nausea/vomiting - sore mouth and /or altered taste and appetite -** the lining of our gut, from our mouth to our anus is made up of cells that are constantly renewing and replacing themselves - certain treatments may see these rapidly dividing and changing cells as no different to cancer cells - which can lead to mouth ulcers and /or nausea/vomiting.

- **Diarrhoea / constipation -** the effect mentioned above can also alter how the bowel works.

- **Dose restrictions -** if you have previous been treated with radiation and / or chemotherapy - your specialist team will need to consider whether these previous treatments will affect planned treatment. Some drugs may have a lifetime dose limit, other previous treatments may increase or reduce effectiveness of planned care.

- **Fertility -** depending on the type of treatment fertility may be affected.

- **Pain / inflammatory response -** the body may see treatment as an injury. The natural response to injury is inflammation - caused by a rush of protective and repair factors to the site of harm. The tumour doesn't want to be killed, but as its cells are attacked, it may release certain substances that cause inflammation (swelling) - which can lead to discomfort and / or pain.

Rarely, a more severe reaction may be experienced as tumour cells are damaged and die - this sudden destruction can cause the release of certain chemicals into the bloodstream, that the kidneys cannot get rid of as fast as they'd like - this is called **Tumour Lysis Syndrome.** Typically, onset is within 1-5 days of the procedure or chemotherapy and severity can range from a few abnormal blood results to the other extreme, which may include renal failure and cardiac disturbances (heart problems).

- **Hair thinning / loss, nail and skin changes -** hair (anywhere on the body), skin and nails, like the lining of the gut, are also made up of cells that rapidly divide, renew and replace themselves - therefore, as in the gut, you may see changes in your hair, nails and skin. Once treatment has completed or stopped - these cells recover and 'normal' growth restarts.

- **Interactions** - certain other medications and /or food substances, such as grapefruit juice, may affect how well your planned treatment works. Some can increase their effect, others may reduce their effect. You specialist team will advise you on this.

- **Allergy/ severe intolerance -** very rarely an allergic reaction to treatment may occur - which is why some treatments may be started under close medical supervision. It may not be the drug itself, but may be something in its preparation or content. For example, some people cannot tolerate medications in that come in capsules (the type that can be opened, rather than shape). Any severe reaction should be considered a medical emergency - if not in hospital then you would be advised to call 999 or attend A&E/ nearest medical service asap.

You will be given self care advice: this will include how to best prepare for treatment, self-care during treatment - including when to seek medical help - and what to expect afterwards.