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How Are Chemotherapy Treatments Delivered?

Chemotherapy may be administered at the patient's home, in the physician's office, in a clinic, in a hospital outpatient department or inpatient in a hospital. The frequency and duration of chemotherapy administration depends primarily on the type of cancer and the drugs to be delivered. The goal of the treatment program and the patient's response to the therapy are additional factors to be considered.

Chemotherapy may be delivered daily, weekly, monthly or in a combination of these time intervals. Chemotherapy is often given in on-and-off cycles that include rest periods so that the patient has an opportunity to build healthy new cells and regain strength. Treatments continue for an average of 3 months to 3 years. Chemotherapy may be administered:

- Orally (by mouth, or PO) in pill, capsule, or liquid form
- Topically by medication applied directly to the skin
- Intramuscularly (IM), subcutaneously (SQ or SC), or intralesionally (IL) into an area of the skin
- Intravenously (IV) through a thin needle inserted into a vein, usually in the hand or lower arm. If necessary, a catheter (tube) is placed into a larger vein and remains as long as required. Permanent catheters can remain in place for months or years. These catheters are commonly referred to as "tunneled" catheters because a rubber tube is "tunneled" through surface skin tissue between the neck and shoulder to another separate incision, usually on the chest or stomach wall. The catheters must be flushed with medication (Heparin) to prevent blood from clotting in the catheter.
- By catheter into a specific body area (i.e., spinal fluid, abdominal cavity, thoracic cavity, bladder or liver). This may be a temporary access device for administering chemotherapy that works in the same way as the tunneled catheter, called a multi-lumen catheter because there are up to three IV lines in one plastic catheter tube.
- For some patients, a subcutaneous pocket and tunnel are created and a catheter is passed though the tunnel. The catheter is then connected to a port or pump device and the connection checked with an injection. The pump is secured in the chest wall pocket, and remains long-term for chemotherapy administration.
- Intrathecal delivery involves a spinal puncture with delivery of the chemotherapy drug directly into the brain or spinal fluid. Intrathecal delivery can be provided through a device called an Ommaya reservoir. This device is surgically implanted under the scalp for direct injection of chemotherapy throughout the spinal fluid or the ventricle in the brain. The drugs are then delivered through the reservoir, rather than through the back during a spinal tap.