CANCER MANAGEMENT

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Goals of Cancer Therapy

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CANCER THERAPY

- Primary Treatment
- Adjuvant Treatment
- Palliative Treatment

Primary Treatment

- **Goal:** to completely remove the cancer from the body or kill all the cancer cells.
- Any cancer treatment can be used as a primary treatment
  - Surgery/ removal of tumor – most common
  - radiation therapy
  - chemotherapy

Adjuvant Therapy

- **Goal:** to kill any cancer cells that may remain after primary treatment in order to reduce the chance that the cancer will recur.
- Any cancer treatment can be used as an adjuvant therapy.
  - Chemotherapy
  - Radiation therapy
  - Hormone therapy
- **Neoadjuvant therapy** – similar; used before the primary treatment in order to make the primary treatment easier or more effective.

Palliative Treatment

- Goal: to help relieve side effects of treatment or signs and symptoms caused by cancer itself.
- Therapy that can be used to relieve symptoms:
  - Surgery
  - Radiation
  - Chemotherapy
  - hormone therapy
  - Other medications (ex: for relief of pain and shortness of breath)
- can be used at the same time as other treatments intended to cure your cancer.

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CANCER TREATMENT OPTIONS

- Surgery
- Chemotherapy
- Radiation Therapy
- Bone Marrow Transplant
- Immunotherapy
- Hormone Therapy
- Targeted Therapy
- Cryoablation
- Radiofrequency Ablation
- Clinical Trials

CANCER TREATMENT OPTIONS

SURGERY	CHEMOTHERAPY
removes the cancer or as much of the cancer as possible.	Uses drugs to kill the cancer cells

CANCER TREATMENT OPTIONS

RADIATION THERAPY	BONE MARROW TRANSPLANT
uses high-powered energy beams, such as X-rays or protons, to kill cancer cells. • Outside the body (external body radiation) • Inside the body (brachytherapy)	also known as a stem cell transplant can use your own bone marrow stem cells or those from a donor to create new healthy blood cells

CANCER TREATMENT OPTIONS

IMMUNOTHERAPY	HORMONE THERAPY
• biological therapy • uses your body's immune system to fight cancer. • Cancer can survive unchecked in your body because your immune system doesn't recognize it as an intruder. Immunotherapy can help your immune system "see" the cancer and attack it.	• Some types of cancer are fueled by your body's hormones. • Removing those hormones from the body or blocking their effects may cause the cancer cells to stop growing.

CANCER TREATMENT OPTIONS

TARGETED THERAPY	CRYOABLATION
focuses on specific abnormalities within cancer cells that allow them to survive	• kills cancer cells with cold. • During cryoablation, a thin, wandlike needle (cryoprobe) is inserted through your skin and directly into the cancerous tumor. A gas is pumped into the cryoprobe in order to freeze the tissue. Then the tissue is allowed to thaw. The freezing and thawing process is repeated several times during the same treatment session in order to kill the cancer cells.

CANCER TREATMENT OPTIONS

RADIOFREQUENCY ABLATION	CLINICAL TRIALS
• uses electrical energy to heat cancer cells, causing them to die. • During radiofrequency ablation, a doctor guides a thin needle through the skin or through an incision and into the cancer tissue. High-frequency energy passes through the needle and causes the surrounding tissue to heat up, killing the nearby cells.	Clinical trials are studies to investigate new ways of treating cancer. Thousands of cancer clinical trials are underway.

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FACTORS AFFECTING TREATMENT CHOICE

- Type of cancer
- Gene expression
- Tumor characteristics
- Stage of cancer/ how advanced it is
- Personal beliefs
- Social aspects (financial capabilities)

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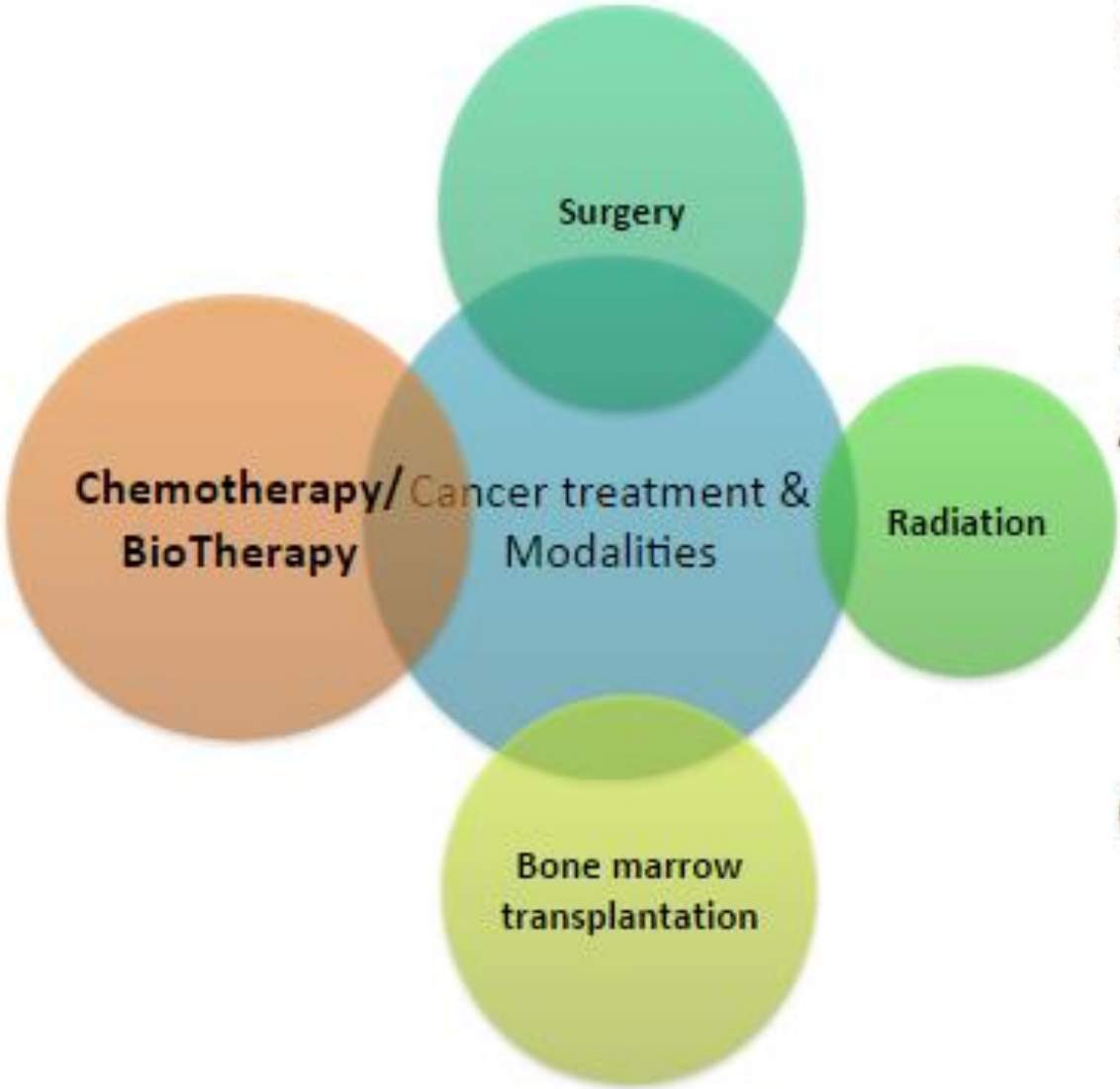
FACTORS AFFECTING TREATMENT RESPONSE

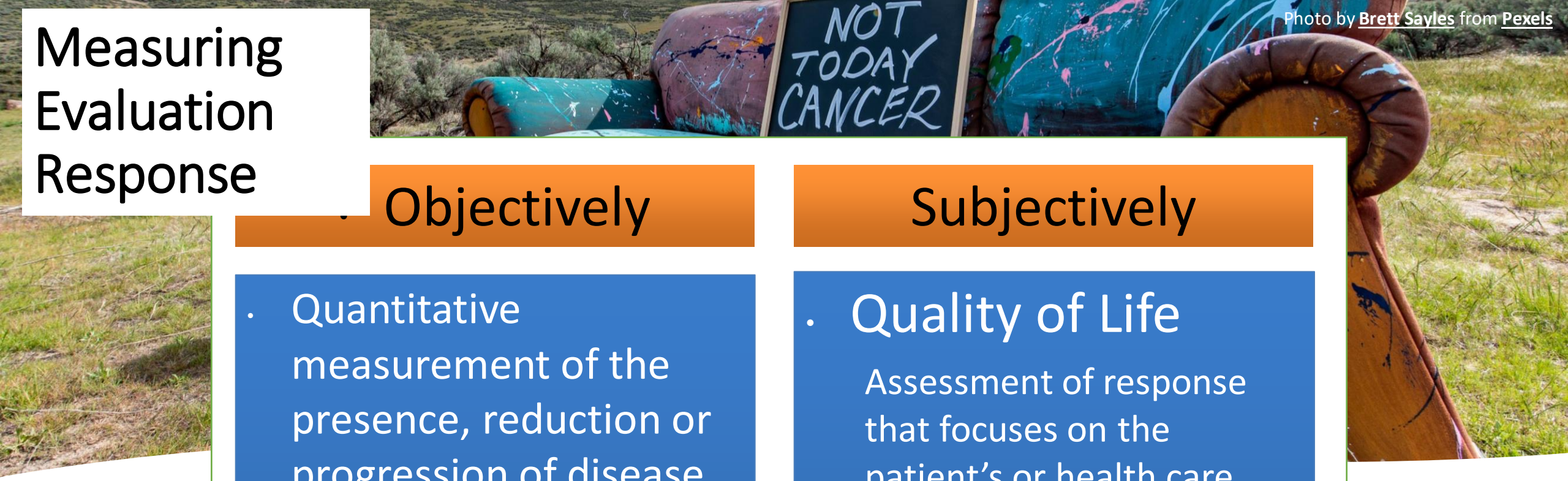
- Person's genetic makeup
- Interference with macromolecular synthesis and functions
- Tumor characteristics: growth fraction and size
- Treatment resistance
- Dosage and timing of treatment delivery
- Dose toxicity

Factors to Consider



1. Tumor Cell Kinetics
2. Growth rate
3. Invasiveness
4. Metastatic potential
5. Tumor location
6. Physical & psychosocial status of the patient
7. Quality of Life

Measuring Evaluation Response



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Objectively

- Quantitative measurement of the presence, reduction or progression of disease
- E.g. radiologically, PE of superficial skin lesions and other diagnostics

Subjectively

- Quality of Life

  Assessment of response that focuses on the patient's or health care provider's interpretation of how the individual functions with his or her activities of daily living.

Measuring Evaluation Response

Response to cancer treatment is defined several ways:

- **Complete response**

all of the cancer or tumor disappears; there is no evidence of disease. A tumor marker (if applicable) may fall within the normal range.

- **Partial response**

the cancer has shrunk by a percentage but disease remains. A tumor marker (if applicable) may have fallen but evidence of disease remains.

- **Stable disease**

the cancer has neither grown nor shrunk; the amount of disease has not changed. A tumor marker (if applicable) has not changed significantly.

- **Disease progression**

the cancer has grown; there is more disease now than before treatment. A tumor marker test (if applicable) shows that a tumor marker has risen.

SUMMARY

- Cancer treatment goals are cure, prevention, control and palliation.
- Management of cancer involve different treatment modalities, including combination of these.
- Factors affecting treatment response include a person's genetic makeup and tumor cell biology.

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REFERENCES

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