

SA Palliative Care Community Pharmacy Update

A joint initiative of South Australian Palliative Care Services

Immunotherapy agents, commonly known as ‘checkpoint inhibitors’, are a promising alternative to chemotherapy for many cancers. The use of immunotherapy is relatively new and its benefits (and risks) are still coming to light.

Mechanism of Action

Checkpoint inhibitors work by aiding the body’s immune system to identify and fight the tumour cells. They are antibodies which block certain immune signalling pathways that tumour cells use to evade the host immune system.

There are two main receptor targets:

- > CTLA-4 (Cytotoxic T-lymphocyte antigen-4) inhibitors
- > PD-1 and PD-L1 (Programmed cell death 1 or Programmed cell death ligand-1) inhibitors

These agents may be given as monotherapy (more common) or combination therapy. See the table for details of drug, receptor targets and indications.

Class	Drug names	Cancers
CTLA-4 inhibitor	Ipilimumab	Melanoma Renal
PD-1 inhibitor	Nivolumab	Lung (non-small cell) Melanoma Renal Head & Neck
	Pembrolizumab	Lung (non-small cell) Melanoma Bladder Hodgkin’s lymphoma
PD-L1 inhibitor	Atezolizumab	Lung (non-small cell and small cell)
	Durvalumab	Lung (non-small cell)
	Avelumab	Merkel Cell

How effective is immunotherapy?

Efficacy is varied depending on the indication and is difficult to predict. Most immunotherapy is only indicated in metastatic setting, meaning that the best outcome would be to prolong progression-free survival, but a cure is not possible. Patient factors including stage of disease, functional status, frailty, and blood tests are also important.

Cancer Type	Response
Advanced melanoma	40-60%
Advanced renal, lung, bladder, and head and neck cancer, Hodgkins Lymphoma	20-30%
Other Advanced Cancers	<10%

Other benefits

Due to the less toxic side effect profile, immunotherapy has provided an alternative option for patients who may be unsuitable for cytotoxic chemotherapy due to poor functional status or other factors.

Immunotherapy has a unique side effect profile, which can appear during or for a while after stopping treatment. These will be discussed in the next edition.

Further Reading

- > Cancer Council Australia - [Treatment](#)

Thanks to Maddy Hamden for preparing this update

For more information

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This update is intended to provide practical up to date and factual information relating to pharmacy and medicines management in the setting of Palliative Care and is based on critical review of available evidence. Individual patient circumstances must be considered when applying this information. Please feel free to distribute this update further to interested colleagues.