

## Immune Checkpoint inhibitors Handout

### Objectives

- Develop a visual model for how the immune system interacts with tumor cells.
- Describe the most common types of immune checkpoint inhibitors and their indications.
- Identify the most common side effects of immune checkpoint inhibitors and initial steps in management.
- Utilize the NCCN guidelines to initiate treatment of common and severe immune checkpoint complication

### Why do we care? *(list three reasons)*

1.

2.

3.

### Notes:

### Key take home points

1. Tumors can 'put the breaks' on the immune system by expressing 'immune checkpoints'.
2. Immune checkpoint inhibitors take 'off the breaks' and turn the immune system on.
3. Immune checkpoint inhibitors are best used for treating cancers with a lot of mutations (skin, lung etc).
4. Immune checkpoint inhibitors cause autoimmune side effects that generally respond to steroids.
5. NCCN guidelines are the 'go to' resource for guiding management of toxicities.

How do I treat immunotherapy toxicities?



Basic framework to treat ICI toxicity

### Case 1

**Case 1:** A 46 yo woman w/hx of metastatic melanoma being treated with nivolumab (anti-PD-1) and ipilimumab (anti-CTLA-4) presents to your primary care office with new onset diarrhea. Having 5-6 BMs per day, not interfering with her ADLs/IADLs

What work up should you do?

What grade colitis does she have?

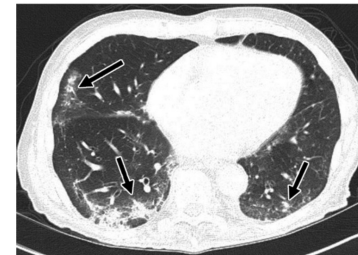
Infectious w/up comes back negative.  
What treatment should you offer?

### Case 2

**Case 2:** A 68 yo gentleman with stage IV NSCLC on single agent pembrolizumab (anti-PD-1). On his 5<sup>th</sup> cycle he develops a worsening cough and dyspnea on exertion and comes into your office to be examined found to have SpO<sub>2</sub> of 88% on RA with coarse b/l crackles.

What initial work up should you do?

CT-scan looks like this...



What treatment should you offer?