# NIVOLUMAB

Monotherapy for the treatment of advanced (unresectable or metastatic) melanoma - NICE 2016

Monotherapy for the treatment of previously treated advanced or metastatic renal cell carcinoma – NICE 2016

Monotherapy for adults with relapsed or refractory classical Hodgkin lymphoma after autologous stem cell transplant and treatment with brentuximab vedotin – NICE 2017

An option for previously treated squamous NSCLC (*no minimum PD-L1*) which has progressed after treatment with at least two cycles of platinum-containing doublet chemotherapy for stage IIIB/IV disease *and* a targeted treatment if they have an EGFR or ALK-+ve tumour

Monotherapy for the treatment of squamous cell cancer of the head and neck, in adults progressing on or after platinum-based therapy

Available via an EAMS for the treatment of adult patients with advanced or recurrent gastric or GOJ adenocarcinoma after two or more prior systemic therapies

**Blueteq registration is required before treatment may start, *with the exception of melanoma***

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| Drug/Dosage: | Nivolumab | 3mg/kg IV | Day 1 |

Administration: in 100ml 0.9% sodium chloride over 60 minutes
Administer via a 0.2 – 1.2 micron in-line filter (the polyethylene-lined giving sets used for paclitaxel are appropriate, with a 0.22 micron filter)

Infusion-related reactions: In case of a severe infusion reaction, nivolumab infusion must be discontinued and appropriate medical therapy administered.
Patients with a mild or moderate infusion reaction may continue to receive nivolumab with close monitoring.

Frequency: every 2 weeks as long as clinical benefit is observed*, or unacceptable toxicity**.**
Review for toxicities before each dose is due.
In addition, it is very important that the patient is educated to immediately report any key signs or symptoms to the treating oncology team (see Comments)

*For NSCLC and H&N cancer, nivolumab must be stopped at 2 years of uninterrupted treatment (or earlier in the event of disease progression)

Main Toxicities: immune-related toxicities (colitis, pneumonitis, hepatitis etc.)
the most common symptoms reported by patients are fatigue, nausea, diarrhoea, rash, pruritis, arthralgia, reduced appetite, abdominal pain, headache

Anti- emetics: mildly emetogenic

Extravasation: non-vesicant

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| Regular Investigations: | FBC | before each dose |
| | U&Es & LFTs | before each dose |
| | LDH | before each dose, for melanoma and Hodgkin's indications |
| | Random blood glucose | before each dose |

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| Reason for Update: Upper GI EAMS; H&N & NSCLC references added | Approved by Consultant: Dr M Hewish |
| Version: 5 | Approved by Lead Chemotherapy Nurse: S Wills-Percy |
| Supersedes: Version 4 | Date: 4.1.18 |
| Prepared by: S Taylor | Checked by: M Chow |

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| Thyroid function* | every 2 – 4# weeks, as consultant preference |
| Random cortisol | every 4 weeks, and as indicated |

**to avoid treatment delays, use previous results for prescribing purposes, if previous result was within normal limits and no current concerns*
*#rcc patients already on thyroxine may be monitored less frequently, up to every 8 weeks*

Comments:

Patients must be given a Nivolumab patient alert card, and be advised to contact the oncology team or the 24 hour hot-line immediately they experience any side effect, as some side effects worsen rapidly. Prompt management of side effects can ensure that the patient continues with treatment.

Patients may be given a supply of loperamide, along with counselling to contact the oncology team in the event of any diarrhoea.

Dose Delays and Toxicity Management:

Dose reductions for toxicity management are not recommended.

With regards to blood tests, proceed with next cycle of immunotherapy if:

Platelets ≥ 75 x $10^9$/l and Neutrophils ≥ 1.0 x $10^9$/l
and
AST/ALT ≤ 3 x ULN
and
Serum creatinine ≤ 1.5 x baseline
and
TSH / free $T_4$ within range, or no change from baseline

For detailed guidelines for the management of immune-related adverse events, please refer to the Alliance "Guidelines for Management of Immunotherapy-Related Adverse Events" document.

Nivolumab may be restarted within 12 weeks after the last dose, only if an adverse reaction remains at Grade ≤ 1 and the corticosteroid dose has been reduced to ≤ 10 mg prednisone or equivalent per day.

Renal Impairment:

No dose adjustment is required in mild or moderate renal impairment. Data from patients with severe renal impairment (CrCl < 30ml/min) are too limited to draw conclusions.

Hepatic Impairment:

No dose adjustment is required in mild hepatic impairment. Data from patients with moderate or severe hepatic impairment are too limited to draw conclusions. Nivolumab must be administered with caution in patients with moderate or severe hepatic impairment, i.e. bilirubin > 1.5 x ULN and any AST.

References:

Weber, J et al; Lancet Oncology 2015; 16 (4): 375 – 384 (melanoma)
Robert, C et al; NEJM 2015; 372 (4): 320 – 330 (melanoma)
Motzer, R et al; NEJM 2015; 373; 1803 – 1813 (rcc)
Younes, A et al; Lancet Oncology 2016; 17 (9): 1283 – 1294 (Hodgkin's)
Borghaei, H; NEJM 2015; 373: 1627 – 1639 (NSCLC)
Ferris, R et al; NEJM 2016; 375: 1856 – 1867 (H&N)
Kang, Y et al; Lancet 2017; 390 (10111): 2461 – 2471 (Upper GI)