**INDICATIONS FOR USE:**

<table>
<thead>
<tr>
<th>INDICATION</th>
<th>ICD10</th>
<th>Regimen Code</th>
<th>*Reimbursement Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>As monotherapy for the treatment of advanced (unresectable or metastatic) melanoma in adults</td>
<td>C43</td>
<td>00483a</td>
<td>ODMS 9/10/2017</td>
</tr>
<tr>
<td>As monotherapy for the treatment of advanced renal cell carcinoma (RCC) after prior therapy in adults.</td>
<td>C64</td>
<td>00483b</td>
<td>ODMS 9/10/2017</td>
</tr>
<tr>
<td>As monotherapy is indicated for the treatment of adult patients with relapsed or refractory classical Hodgkin lymphoma (cHL) after autologous stem cell transplant (ASCT) and treatment with brentuximab vedotin.</td>
<td>C81</td>
<td>00483c</td>
<td>ODMS 9/10/2017</td>
</tr>
<tr>
<td>As monotherapy for the treatment of squamous cell cancer of the head and neck in adults progressing on or after platinum-based therapy.</td>
<td>C76</td>
<td>00483d</td>
<td>ODMS 01/05/2018</td>
</tr>
<tr>
<td>As monotherapy for the treatment of locally advanced or metastatic non-small cell lung cancer (NSCLC) after prior chemotherapy in adults.</td>
<td>C34</td>
<td>00483e</td>
<td>ODMS 03/09/2018</td>
</tr>
</tbody>
</table>

*If the reimbursement status is not defined, the indication has yet to be assessed through the formal HSE reimbursement process.*

**TREATMENT:**

The starting dose of the drugs detailed below may be adjusted downward by the prescribing clinician, using their independent medical judgement, to consider each patient's individual clinical circumstances.

Nivolumab is administered once every 14 days until disease progression or unacceptable toxicity develops. Patients should be monitored continuously (at least up to 5 months after the last dose) as an adverse reaction with nivolumab may occur at any time during or after discontinuation of therapy.

If melanoma or RCC patients need to be switched from the 240 mg every 2 weeks schedule to the 480 mg every 4 weeks schedule (Ref NCCP Regimen 00484 Nivolumab Monotherapy 480mg-28 day), the first 480mg dose should be administered two weeks after the last 240 mg dose.

Facilities to treat anaphylaxis MUST be present when nivolumab is administered.

<table>
<thead>
<tr>
<th>Drug</th>
<th>Dose</th>
<th>Route</th>
<th>Diluent &amp; Rate</th>
<th>Cycle</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nivolumab</td>
<td>240mg</td>
<td>IV infusion</td>
<td>Infuse over 30 minutes through a sterile, non-pyrogenic, low protein binding in-line filter with a pore size of 0.2-1.2 μm</td>
<td>Ongoing every 14 days to progression or toxicity</td>
</tr>
</tbody>
</table>

Nivolumab must not be administered as an intravenous push or bolus injection.

Nivolumab can be infused directly as a 10 mg/mL solution or can be diluted to as low as 1 mg/mL with sodium chloride 9 mg/mL (0.9%) solution for injection or glucose 50 mg/mL (5%) solution for injection.

**ELIGIBILITY:**

- Indications as above

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**NCCP Regimen: Nivolumab Monotherapy 240mg-14 day**

**Published:** 19/04/2019  
**Review:** 05/09/2020  
**Version number:** 4

**Tumour Group:** Genitourinary/Lymphoma/Melanoma/Head & Neck/Lung  
**NCCP Regimen Code:** 000483  
**IHS/ISMO Contributor:** Prof. G. Gullo, Dr. D. O’Mahony, Dr. R Bambury, Dr. L Bacon, Dr E Hanrahan, Dr. S. Cuffe

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NCCP Chemotherapy Regimen

- ECOG status
  - Melanoma and RCC: 0-2
  - cHL: 0-1
  - Head and Neck: 0-1
  - NSCLC: 0-1
- Aged 18 years or above
- Adequate haematological, hepatic and renal function
- Nivolumab is not recommended during pregnancy and in women of childbearing potential not using effective contraception unless prescribing consultant deems clinical benefit outweighs the potential risk. Effective contraception should be used for at least 5 months following the last dose of nivolumab.
- Renal cell carcinoma
  - Histologic confirmation of advanced or metastatic renal-cell carcinoma.
  - Have received one or more prior lines of systemic therapy including at least one prior anti-angiogenic tyrosine kinase inhibitor.
- Head and Neck
  - Histologically confirmed recurrent or metastatic squamous cell carcinoma of the head and neck (SCCHN) (oral cavity, pharynx, larynx), that is not amenable to local therapy with curative intent (surgery or radiation therapy with or without chemotherapy)
  - Tumour progression or recurrence within 6 months of last dose of platinum-based therapy in the adjuvant (ie, with radiation after surgery), primary (ie, with radiation), recurrent, or metastatic setting.
- Non small cell lung cancer (NSCLC)
  - Subjects must have experienced disease recurrence or progression during or after one prior platinum-containing doublet chemotherapy regimen for advanced or metastatic disease.

CAUTION:
Use with caution in:
- Patients with clinically significant autoimmune disease

EXCLUSIONS:
- Previous treatment with an anti-PD1/ PD-L1 monoclonal antibody
- Symptomatic CNS metastases
- Any medical condition that requires immunosuppressive doses of systemic corticosteroids or other immunosuppressive medication(s) (defined as >10mg prednisolone/daily (or steroid equivalent, excluding inhaled or topical steroids)
- Symptomatic interstitial lung disease
- Any active clinically significant infection requiring therapy
- Head and neck
  - Patients with carcinoma of the nasopharynx or salivary gland as primary tumour site.

PRESCRIPTIVE AUTHORITY:
The treatment plan must be initiated by a Consultant Medical Oncologist or by a Consultant Haematologist working in the area of haematological malignancies.
TESTS:

Baseline tests:
- Blood, renal and liver profile
- Glucose
- TFTs
- Hepatitis B (HBV sAg) and Hepatitis C (HCV RNA)
- Serum cortisol (ideally a morning sample)

Disease specific baseline test:
- Melanoma: BRAF status

Regular tests:
- FBC, renal and liver profile and glucose prior to each cycle
- TFTs prior to each cycle

Disease monitoring:
- Disease monitoring should be in line with the patient’s treatment plan and any other test/s as directed by the supervising Consultant.

Non small cell lung cancer (NSCLC):
- Patients should be assessed for progression prior to commencing their 8th cycle.

DOSE MODIFICATIONS:

- Any dose modification should be discussed with a Consultant
- Dose escalation or reduction is not recommended. Any dose modification should be discussed with a Consultant.
- Management of immune-related adverse reactions may require withholding of a dose or permanent discontinuation of nivolumab therapy and institution of systemic high-dose corticosteroid.
- If immunosuppression with corticosteroids is used to treat an adverse reaction, a taper of at least 1 month duration should be initiated upon improvement. Rapid tapering may lead to worsening or recurrence of the adverse reaction. Non-corticosteroid immunosuppressive therapy should be added if there is worsening or no improvement despite corticosteroid use. Nivolumab should not be resumed while the patient is receiving immunosuppressive doses of corticosteroids or other immunosuppressive therapy.
- Guidelines for withholding of doses or permanent discontinuation are described in Table 1 below.

Table 1: Recommended Treatment Modifications for Nivolumab

<table>
<thead>
<tr>
<th>Immune-related adverse reaction</th>
<th>Severity</th>
<th>Treatment Modification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Immune-related pneumonitis</td>
<td>Grade 2 pneumonitis</td>
<td>Withhold dose(s) until symptoms resolve, radiographic abnormalities improve, and management with corticosteroids is complete</td>
</tr>
<tr>
<td></td>
<td>Grade 3 or 4 pneumonitis</td>
<td>Permanently discontinue treatment</td>
</tr>
<tr>
<td>Immune-related colitis</td>
<td>Grade 2 diarrhoea or colitis</td>
<td>Withhold dose(s) until symptoms resolve and management with corticosteroids, if needed</td>
</tr>
</tbody>
</table>

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## NCCP Chemotherapy Regimen

<table>
<thead>
<tr>
<th>Tumour Group: Genitourinary/Lymphoma/Melanoma/Head &amp; Neck/Lung</th>
<th>NCCP Regimen Code: 000483</th>
<th>Published: 19/04/2019</th>
<th>Review: 05/09/2020</th>
<th>Version number: 4</th>
</tr>
</thead>
</table>

### NCCP Regimen: Nivolumab Monotherapy

- **240mg-14 day**

**Grade 3 diarrhoea or colitis**
- Withhold dose(s) until symptoms resolve and management with corticosteroids is complete

**Grade 4 diarrhoea or colitis**
- Permanently discontinue treatment

### Immune-related hepatitis

- **Grade 2 elevation in aspartate aminotransferase (AST), alanine aminotransferase (ALT), or total bilirubin**
  - Withhold dose(s) until laboratory values return to baseline and management with corticosteroids, if needed, is complete

- **Grade 3 or 4 elevation in AST, ALT, or total bilirubin**
  - Permanently discontinue treatment

### Immune-related nephritis and renal dysfunction

- **Grade 2 or 3 creatinine elevation**
  - Withhold dose(s) until creatinine returns to baseline and management with corticosteroids is complete

- **Grade 4 creatinine elevation**
  - Permanently discontinue treatment

### Immune-related endocrinopathies

- **Symptomatic Grade 2 or 3 hypothyroidism, hyperthyroidism, hypophysitis, Grade 2 adrenal insufficiency, Grade 3 diabetes**
  - Withhold dose(s) until symptoms resolve and management with corticosteroids (if needed for symptoms of acute inflammation) is complete. Treatment should be continued in the presence of hormone replacement therapy as long as no symptoms are present

- **Grade 4 hypothyroidism**
  - Permanently discontinue treatment

- **Grade 4 hyperthyroidism**
  - Permanently discontinue treatment

- **Grade 4 hypophysitis**
  - Permanently discontinue treatment

- **Grade 3 or 4 adrenal insufficiency**
  - Permanently discontinue treatment

- **Grade 4 diabetes**
  - Permanently discontinue treatment

### Immune-related rash

- **Grade 3 rash**
  - Withhold dose(s) until symptoms resolve and management with corticosteroids is complete

- **Grade 4 rash**
  - Permanently discontinue treatment

- **Steven-Johnsons syndrome (SJS) or toxic epidermal necrolysis (TEN)**
  - Permanently discontinue treatment

### Other adverse reactions

- **Grade 3 (first occurrence)**
  - Withhold dose(s)

- **Grade 3 myocarditis**
  - Permanently discontinue treatment

- **Grade 4 or recurrent Grade 3; persistent Grade 2 or 3 despite treatment modification; inability to reduce corticosteroid dose to 10 mg**
  - Permanently discontinue treatment

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NCCP Chemotherapy Regimen

Nivolumab Monotherapy

240mg - 14 day

Published: 19/04/2019
Review: 05/09/2020
Version number: 4

IHS/ISMO Contributor: Prof. G. Gullo, Dr. D. O’Mahony, Dr. R Bambury, Dr. L Bacon, Dr. E Hanrahan, Dr. S. Cuffe

Renal and Hepatic Impairment:

Table 2: Dose modification of nivolumab in renal and hepatic impairment

<table>
<thead>
<tr>
<th>Renal Impairment</th>
<th>Dose</th>
<th>Hepatic Impairment</th>
<th>Dose</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mild-Moderate</td>
<td>No dose adjustment necessary</td>
<td>Mild</td>
<td>No dose adjustment necessary</td>
</tr>
<tr>
<td>Severe</td>
<td>Has not been studied</td>
<td>Moderate-Severe</td>
<td>Has not been studied</td>
</tr>
</tbody>
</table>

Nivolumab must be administered with caution in patients with
- moderate (total bilirubin >1.5x to 3x ULN and any AST) or
- severe (total bilirubin >3 x ULN and any AST) hepatic impairment

Supportive Care:

Emetogenic Potential: Minimal (Refer to local policy).

Premedications: Not usually required

Other Supportive Care: No specific recommendations

Adverse Effects / Regimen Specific Complications

The adverse effects listed are not exhaustive. Please refer to the relevant Summary of Product Characteristics for full details.

This medicinal product is subject to additional monitoring. Healthcare professionals are asked to report any suspected adverse reactions.

- Cardiac adverse events and pulmonary embolism: Patients should be monitored for cardiac and pulmonary adverse reactions continuously, as well as for clinical signs, symptoms, and laboratory abnormalities indicative of electrolyte disturbances and dehydration prior to and periodically during treatment.

- Immune related adverse reactions:

<table>
<thead>
<tr>
<th>Adverse reaction</th>
<th>Withhold/ discontinue</th>
<th>Recommended action -1st occurrence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Immune-related pneumonitis</td>
<td>Withhold</td>
<td>Initiate corticosteroids at a dose of 1 mg/kg/day methylprednisolone (/equivalents) Upon improvement, nivolumab may be resumed after corticosteroid taper</td>
</tr>
<tr>
<td>Grade 2 (symptomatic)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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### NCCP Chemotherapy Regimen

**NCCP Regimen: Nivolumab Monotherapy**

<table>
<thead>
<tr>
<th>Grade 3 or 4</th>
<th>Permanently discontinue</th>
<th>Increase corticosteroid dose to 2 to 4 mg/kg/day methylprednisolone (/equivalents)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Immune-related colitis</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Patients should be monitored for diarrhea and additional symptoms of colitis, such as abdominal pain and mucus or blood in stool. Infectious and disease-related aetiologies should be ruled out.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>If worsening or no improvement occurs despite initiation of corticosteroids</td>
<td>Withhold</td>
<td>Initiate corticosteroids at a dose of 0.5 to 1 mg/kg/day methylprednisolone (/equivalents) Upon improvement, nivolumab may be resumed after corticosteroid taper</td>
</tr>
<tr>
<td>If worsening or no improvement occurs despite initiation of corticosteroids</td>
<td>Permanently discontinue</td>
<td>Increase corticosteroid dose to 1 to 2 mg/kg/day methylprednisolone (/equivalents)</td>
</tr>
<tr>
<td>Grade 3 diarrhoea or colitis</td>
<td>Withhold</td>
<td>Initiate corticosteroids at a dose of 1 to 2 mg/kg/day methylprednisolone (/equivalents) Upon improvement, nivolumab may be resumed after corticosteroid taper</td>
</tr>
<tr>
<td>If worsening or no improvement occurs despite initiation of corticosteroids</td>
<td>Permanently discontinue</td>
<td>Increase corticosteroid dose to 1 to 2 mg/kg/day methylprednisolone (/equivalents)</td>
</tr>
<tr>
<td>Grade 4 diarrhoea or colitis</td>
<td>Permanently discontinue</td>
<td>Initiate corticosteroids at a dose of 1 to 2 mg/kg/day methylprednisolone (/equivalents)</td>
</tr>
<tr>
<td>Immune-related hepatitis</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Patients should be monitored for signs and symptoms of hepatitis such as transaminase and total bilirubin elevations. Infectious and disease-related aetiologies should be ruled out.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>If worsening or no improvement occurs despite initiation of corticosteroids</td>
<td>Withhold</td>
<td>Persistent elevations in these laboratory values should be managed with corticosteroids at a dose of 0.5 to 1 mg/kg/day methylprednisolone equivalents Upon improvement, nivolumab may be resumed after corticosteroid taper</td>
</tr>
<tr>
<td>If worsening or no improvement occurs despite initiation of corticosteroids</td>
<td>Permanently discontinue</td>
<td>Increase corticosteroid dose to 1 to 2 mg/kg/day methylprednisolone (/equivalents)</td>
</tr>
<tr>
<td>Grade 3 or 4 transaminase or total bilirubin elevation</td>
<td>Permanently discontinue</td>
<td>Initiate corticosteroids at a dose of 1 to 2 mg/kg/day methylprednisolone (/equivalents)</td>
</tr>
<tr>
<td>Immune-related nephritis or renal dysfunction</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Patients should be monitored for signs and symptoms of nephritis and renal dysfunction. Most patients present with asymptomatic increases in serum creatinine. Disease-related aetiologies should be ruled out.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>If worsening or no improvement occurs despite initiation of corticosteroids</td>
<td>Withhold</td>
<td>Initiate corticosteroids at a dose of 0.5 to 1 mg/kg/day methylprednisolone (/equivalents) Upon improvement, nivolumab may be resumed after corticosteroid taper</td>
</tr>
<tr>
<td>If worsening or no improvement occurs despite initiation of corticosteroids</td>
<td>Permanently discontinue</td>
<td>Increase corticosteroid dose to 1 to 2 mg/kg/day methylprednisolone (/equivalents)</td>
</tr>
<tr>
<td>Grade 4 serum creatinine elevation</td>
<td>Permanently discontinue</td>
<td>Initiate corticosteroids at a dose of 1 to 2 mg/kg/day methylprednisolone (/equivalents)</td>
</tr>
</tbody>
</table>

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# NCCP Chemotherapy Regimen

## NCCP Regimen: Nivolumab Monotherapy

### 240mg-14 day

**Tumour Group:** Genitourinary/Lymphoma/Melanoma/Head & Neck/Lung  
**NCCP Regimen Code:** 000483  
**IHS/ISMO Contributor:** Prof. G. Gullo, Dr. D. O’Mahony, Dr. R Bambury, Dr. L Bacon, Dr E Hanrahan, Dr. S. Cuffe

Nivolumab is administered at a dose of 240mg every 14 days, starting on day 1 of each cycle. The recommended duration of therapy is until disease progression, unacceptable toxicity, or until the patient is no longer able to tolerate the treatment. If the patient experiences immune-related adverse reactions, specific management guidelines are provided below.

### Immune-related endocrinopathies

Patients should be monitored for clinical signs and symptoms of endocrinopathies and for hyperglycaemia and changes in thyroid function (at the start of treatment, periodically during treatment, and as indicated based on clinical evaluation). Patients may present with fatigue, headache, mental status changes, abdominal pain, unusual bowel habits, and hypotension, or nonspecific symptoms which may resemble other causes such as brain metastasis or underlying disease. Unless an alternate etiology has been identified, signs or symptoms of endocrinopathies should be considered immune-related.

<table>
<thead>
<tr>
<th>Symptomatic hypothyroidism</th>
<th>Withhold</th>
<th>Withhold Thyroid hormone replacement should be initiated as needed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Symptomatic hyperthyroidism</td>
<td>Withhold</td>
<td>Antithyroid medication should be initiated as needed. Corticosteroids at a dose of 1 to 2 mg/kg/day methylprednisolone equivalents should also be considered if acute inflammation of the thyroid is suspected. Upon improvement, nivolumab may be resumed after corticosteroid taper, if needed. Monitoring of thyroid function should continue to ensure appropriate hormone replacement is utilised.</td>
</tr>
</tbody>
</table>

### Immune-related skin adverse reactions

<table>
<thead>
<tr>
<th>Grade 3 rash</th>
<th>Withhold</th>
<th>Severe rash should be managed with high-dose corticosteroid at a dose of 1 to 2 mg/kg/day methylprednisolone equivalents. Rare cases of toxic epidermal necrolysis (TEN) some of them with fatal outcome have been observed. If symptoms or signs of Stevens-Johnson Syndrome (SJS) or TEN appear, nivolumab treatment should be discontinued and the patient referred to a specialised unit for assessment and treatment. If the patient has developed SJS or TEN with the use of nivolumab, permanent discontinuation of nivolumab is recommended. Caution should be used when considering the use of nivolumab in a patient who has previously experienced a severe or life-threatening skin adverse reaction on prior treatment with other</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grade 4 rash</td>
<td>Permanently discontinue</td>
<td>Severe rash should be managed with high-dose corticosteroid at a dose of 1 to 2 mg/kg/day methylprednisolone equivalents. Rare cases of toxic epidermal necrolysis (TEN) some of them with fatal outcome have been observed. If symptoms or signs of Stevens-Johnson Syndrome (SJS) or TEN appear, nivolumab treatment should be discontinued and the patient referred to a specialised unit for assessment and treatment. If the patient has developed SJS or TEN with the use of nivolumab, permanent discontinuation of nivolumab is recommended. Caution should be used when considering the use of nivolumab in a patient who has previously experienced a severe or life-threatening skin adverse reaction on prior treatment with other</td>
</tr>
</tbody>
</table>

### Life-threatening hyperthyroidism or hypothyroidism

<table>
<thead>
<tr>
<th>Life-threatening hyperthyroidism or hypothyroidism</th>
<th>Permanently discontinue</th>
<th>Physiologic corticosteroid replacement should be initiated as needed.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Symptomatic Grade 2 adrenal insufficiency</td>
<td>Withhold</td>
<td>Monitoring of adrenal function and hormone levels should continue to ensure appropriate corticosteroid replacement is utilised.</td>
</tr>
<tr>
<td>Severe (Grade 3) or life-threatening (Grade 4) adrenal insufficiency</td>
<td>Permanently discontinue</td>
<td>Hormone replacement should be initiated as needed. Corticosteroids at a dose of 1 to 2 mg/kg/day methylprednisolone (equivalents) should also be considered if acute inflammation of the pituitary gland is suspected. Upon improvement, nivolumab may be resumed after corticosteroid taper, if needed.</td>
</tr>
<tr>
<td>Symptomatic Grade 2 or 3 hypophysitis</td>
<td>Withhold</td>
<td>Monitoring of pituitary function and hormone levels should continue to ensure appropriate hormone replacement is utilised.</td>
</tr>
</tbody>
</table>

### Immune-related hypophysitis

<table>
<thead>
<tr>
<th>Life-threatening (Grade 4) hypophysitis</th>
<th>Permanently discontinue</th>
<th>Monitoring of pituitary function and hormone levels should continue to ensure appropriate hormone replacement is utilised.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Symptomatic diabetes</td>
<td>Withhold</td>
<td>Insulin replacement should be initiated as needed. Monitoring of blood sugar should continue to ensure appropriate insulin replacement is utilised.</td>
</tr>
<tr>
<td>Life-threatening diabetes</td>
<td>Permanently discontinue</td>
<td></td>
</tr>
</tbody>
</table>

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# NCCP Chemotherapy Regimen

## NCCP Regimen: Nivolumab Monotherapy

240mg - 14 day

**NCCP Regimen Code:** 000483

**Tumour Group:** Genitourinary/Lymphoma/Melanoma/Head & Neck/Lung

**IHS/ISMO Contributor:** Prof. G. Gullo, Dr. D. O’Mahony, Dr. R Bambury, Dr. L Bacon, Dr E Hanrahan, Dr. S. Cuffe

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## DRUG INTERACTIONS:

- No formal pharmacokinetic drug interaction studies have been conducted with nivolumab. Since nivolumab is cleared from the circulation through catabolism, no metabolic drug-drug interactions are expected.
- The use of systemic corticosteroids or immunosuppressants before starting nivolumab should be avoided because of their potential interference with the pharmacodynamic activity and efficacy of nivolumab. However, systemic corticosteroids or other immunosuppressants can be used after starting nivolumab to treat immune-related adverse reactions.
- Current drug interaction databases should be consulted for more information.

## ATC CODE:

Nivolumab – L01XC17

## COMPANY SUPPORT RESOURCES/Useful Links:

*HCP Guide:* [http://www.hpra.ie/img/uploaded/swedocuments/edumat_auto_3365b56c-a863-4f42-a1b8-d7ce27e77a43.pdf](http://www.hpra.ie/img/uploaded/swedocuments/edumat_auto_3365b56c-a863-4f42-a1b8-d7ce27e77a43.pdf)


## REFERENCES:


## Table: Other immune-related adverse reactions

<table>
<thead>
<tr>
<th>Immune-related adverse reactions</th>
<th>Management</th>
</tr>
</thead>
<tbody>
<tr>
<td>For suspected immune-related adverse reactions, adequate evaluation should be performed to confirm aetiology or exclude other causes. Based on the severity of the adverse reaction, nivolumab should be withheld and corticosteroids administered. Upon improvement, nivolumab may be resumed after corticosteroid taper. Nivolumab must be permanently discontinued for any severe immune-related adverse reaction that recurs and for any life-threatening immune-related adverse reaction.</td>
<td></td>
</tr>
<tr>
<td>Immunestimulatory anticancer agents</td>
<td></td>
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<tr>
<td></td>
<td>Caution</td>
</tr>
<tr>
<td>May receive nivolumab with close monitoring and use of premedication according to local treatment guidelines for prophylaxis of infusion reactions</td>
<td></td>
</tr>
<tr>
<td>Severe or life-threatening infusion reaction</td>
<td>Discontinue infusion</td>
</tr>
<tr>
<td>Administer appropriate medical therapy</td>
<td></td>
</tr>
</tbody>
</table>

## Infusion reactions

- **Mild or moderate infusion reaction:** Caution
  - May receive nivolumab with close monitoring and use of premedication according to local treatment guidelines for prophylaxis of infusion reactions
- **Severe or life-threatening infusion reaction:** Discontinue infusion
  - Administer appropriate medical therapy

## ATC CODE:

Nivolumab – L01XC17

<table>
<thead>
<tr>
<th>Version</th>
<th>Date</th>
<th>Amendment</th>
<th>Approved By</th>
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</thead>
<tbody>
<tr>
<td>1</td>
<td>21/05/2018</td>
<td></td>
<td>Prof. G. Gullo, Dr. D. O'Mahony, Dr. R Bambury, Dr. L Bacon, Dr E Hanrahan</td>
</tr>
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<td>2</td>
<td>27/8/2018</td>
<td>Inclusion of indication for second line treatment of non squamous cell lung cancer</td>
<td>Dr. D. O'Mahony, Dr. S. Cuffe.</td>
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<tr>
<td>3</td>
<td>05/02/2019</td>
<td>Updated thyroid function testing</td>
<td>Prof Maccon Keane</td>
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<tr>
<td>4</td>
<td>24/04/2019</td>
<td>Inclusion of caution for use in patients with clinically significant history of auto-immune disease</td>
<td>Dr Deirdre O’Mahony Dr. S. Cuffe. Dr E Hanrahan</td>
</tr>
</tbody>
</table>

Comments and feedback welcome at oncologydrugs@cancercontrol.ie.

1 ODMS – Oncology Drug Management System
CDS – Community Drug Schemes (CDS) including the High Tech arrangements of the PCRS community drug schemes
Further details on the Cancer Drug Management Programme is available at; http://www.hse.ie/eng/services/list/5/cancer/profinfomedonc/cdmp/