nab-PACLitaxel and Gemcitabine Therapy– 28 day

INDICATIONS FOR USE:

INDICATION	ICD10	Regimen Code	HSE approved reimbursement status*
nab-PACLitaxel in combination with gemcitabine is indicated for the first-line treatment of adult patients with metastatic adenocarcinoma of the pancreas.	C25	00256a	nab-PACLitaxel : ODMS Gemcitabine: N/A

*For post 2012 indications

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.

nab-PACLitaxel is administered on days 1, 8 and 15 of each 28-day cycle until disease progression or unacceptable toxicity. Gemcitabine is administered immediately after completion of nab-PACLitaxel administration on Days 1, 8 and 15 of each 28-day cycle.

Facilities to treat anaphylaxis MUST be present when the systemic anti-cancer therapy (SACT) is administered.

Admin. Order	Day	Drug	Dose	Route	Diluent & Rate	Cycle
1	1, 8 and 15	nab-PACLitaxel	125mg/m^2	IV infusion	over 30 minutes	Repeat every 28 days
2	1, 8 and 15	Gemcitabine	1000 mg/m^2	IV infusion	250 mL 0.9% NaCl over 30 minutes	Repeat every 28 days

The use of medical devices containing silicone oil as a lubricant (i.e. syringes and IV bags) to reconstitute and administer nab-PACLitaxel may result in the formation of proteinaceous strands.

Administer nab-PACLItaxel using an infusion set incorporating a 15 µm filter to avoid administration of these strands. Use of a 15 µm filter removes strands and does not change the physical or chemical properties of the reconstituted product. If strands are present and a filter is not available, the product must be discarded.

nab-PAClitaxel is an albumin-bound nanoparticle formulation of PACLitaxel, which may have substantially different pharmacological properties compared to other formulations of PACLitaxel. It should not be substituted for or with other PACLitaxel formulations.

Note: Administration volumes and fluids have been standardised to facilitate electronic prescribing system builds.

ELIGIBILITY:

- Indications as above
- Histologic/Cytologic proof of pancreatic adenocarcinoma
- ECOG status 0-2
- Adequate haematological, hepatic and renal function (ANC ≥ 1.5 x10^9/Land bilirubin levels ≤ ULN)

CAUTIONS:

Use with caution in patients with

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- Biliary stents: increased risk of biliary sepsis
- CNS metastases-safety not established
- Grade ≥ 2 sensory or motor neuropathy

EXCLUSIONS:

- Hypersensitivity to nab-PACLitaxel, albumin, gemcitabine or to any of the excipients
- Severe hepatic impairment
- Baseline Neutrophil Counts < 1.5 x 10^9/L
- Pregnancy
- Breastfeeding

PRESCRIPTIVE AUTHORITY:

The treatment plan must be initiated by a Consultant Medical Oncologist.

TESTS:

Baseline tests:

- FBC, renal and liver profile
- Glucose
- Assessment of cardiac function, e.g. ECG, ECHO/MUGA scan if significant cardiac history

Regular tests:

- FBC and renal profile prior to treatment
- Liver profile prior to each cycle.
- Cardiac function if clinically indicated

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.

DOSE MODIFICATIONS:

- Any dose modification should be discussed with a Consultant.

Table 1: Dose level reductions for patients with pancreatic adenocarcinoma

Dose Level	nab-PACLitaxel Dose (mg/m^2)	Gemcitabine Dose (mg/m^2)
Full Dose	125	1000

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1st Dose Level Reduction	100 (20%)	800 (20%)
2nd Dose Level Reduction	75 (40%)	600 (40%)
If additional dose reduction required	Discontinue treatment	Discontinue treatment

Haematological:

Table 2: Dose modifications for neutropenia and/or thrombocytopenia at the start of a cycle or within a cycle for patients with pancreatic adenocarcinoma.

Cycle	ANC (x10^9/L)		Platelets (x10^9/L)	nab-PACLitaxel	Gemcitabine
Day 1	< 1.5	OR	<100	Delay doses until recovery	
Day 8	≥ 0.5 but < 1	OR	≥ 50 but < 75	Reduce doses by 1 dose level	
Day 8	< 0.5	OR	< 50	Withhold doses	
Day 15: If Day 8 doses were given without modifications:					
Day 15	≥ 0.5 but < 1	OR	≥ 50 but < 75	Treat with Day 8 dose level and add G-CSF **OR** Reduce doses by 1 dose level from Day 8 doses	
	< 0.5	OR	< 50	Withhold doses	
Day 15: If Day 8 doses were reduced:					
Day 15	≥ 1	AND	≥ 75	Return to the Day 1 dose levels and add G-CSF **OR** Treat with same doses as Day 8	
	≥ 0.5 but < 1	OR	≥ 50 but <75	Treat with Day 8 dose level and add G-CSF **OR** Reduce doses by 1 dose level from Day 8 doses	
	< 0.5	OR	<50	Withhold doses	
Day 15: If Day 8 doses were withheld:					
Day 15	≥ 1	AND	≥ 75	Return to Day 1 dose levels and add G-SCF **OR** Reduce doses by 1 dose level from Day 1 doses	
	≥ 0.5 but < 1	OR	≥ 50 but < 75	Reduce 1 dose level and add G-CSF **OR** Reduce doses by 2 dose levels from Day 1 doses	
	< 0.5	OR	<50	Withhold doses	

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Renal and Hepatic Impairment:

Table 3: Dose modification of nab-PACLitaxel and gemcitabine in renal and hepatic impairment

Drug	Renal Impairment		Hepatic Impairment	
nab-PACLitaxel[a]	**CrCl (mL/min)**	**Dose**	Mild: no dose adjustment is needed Moderate and severe: contraindicated. Bilirubin > 5 x ULN or AST > 10 x ULN: contraindicated	
	≥ 30	No dose adjustment is needed		
	<30	No need for dose adjustment is expected		
	Haemodialysis	No need for dose adjustment is expected		
Gemcitabine[b]	≥30	No dose adjustment is needed	**Bilirubin (micromol/L)**	**Dose**
			< 27	No dose adjustment is needed
	<30	No need for dose adjustment is expected	≥ 27	Either start at 80% of the original dose and increase the dose if tolerated or start with full dose with active monitoring
	Haemodialysis	No need for dose adjustment is expected. Start haemodialysis 6-12 hours after administration		

[a]nab-PACLitaxel (renal and hepatic - Giraud et al 2023);
[b]Gemcitabine (renal and hepatic -Giraud et al 2023)

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Management of adverse events:

Table 4: Dose Modifications for Adverse Events

Adverse reactions	Recommended dose modification	
	nab-PACLitaxel Dose	Gemcitabine Dose
Grade ≥3 Febrile neutropenia	Withhold doses until fever resolves and ANC ≥ 1.5; resume at next lower dose level[a]	
Grade ≥3 Peripheral neuropathy	Withhold dose until improves to ≤ Grade 1; Resume at next lower dose level[a].	Treat with same dose.
Grade 2 or 3 Cutaneous toxicity	Reduce to next lower dose level[a]; discontinue treatment if adverse reaction persists.	
Grade 3 Mucositis or diarrhoea	Withhold doses until improves to ≤ Grade 1; resume at next lower dose level[a].	
Pneumonitis	Discontinue treatment	
Haemolytic Uremic Syndrome (HUS)	Discontinue treatment	
Severe cutaneous adverse reactions (SCARs) e.g. Stevens-Johnson syndrome (SJS),toxic epidermal necrolysis (TEN), drug reaction with eosinophilia and systemic symptoms (DRESS) and acute generalised exanthematous pustulosis (AGEP)	Discontinue gemcitabine	

[a] See Table 1 for dose level reductions

SUPPORTIVE CARE:

EMETOGENIC POTENTIAL:

As outlined in NCCP Classification Document for Systemic Anti-Cancer Therapy (SACT) Induced Nausea and Vomiting - Available on NCCP website

nab-PACLitaxel: Low **(Refer to local policy)**

Gemcitabine: Low **(Refer to local policy)**

For information:
Within NCIS regimens, antiemetics have been standardised by Medical Oncologists and Haemato-oncologists. Information is available in the following documents:

- NCCP Supportive Care Antiemetic Medicines for Inclusion in NCIS (Medical Oncology) - Available on NCCP website
- NCCP Supportive Care Antiemetic Medicines for Inclusion in NCIS (Haemato-oncology) - Available on NCCP website

PREMEDICATIONS: None usually required.

OTHER SUPPORTIVE CARE:

- G-CSF support may be required to mitigate the risk of haematological toxicities. **(Refer to local policy)**
- Myalgias and arthralgias may occur with nab-PACLitaxel. Analgesic cover should be considered.

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ADVERSE EFFECTS

- Please refer to the relevant Summary of Product Characteristics (SmPC) for details.

REGIMEN SPECIFIC COMPLICATIONS:

- **Pulmonary Toxicity:** Acute shortness of breath may occur. Discontinue treatment if drug-induced pneumonitis is suspected.
- **Cardiovascular:** Due to the risk of cardiac and/or vascular disorders with gemcitabine, particular caution must be exercised with patients presenting a history of cardiovascular events.
- **Renal Toxicity:** Irreversible renal failure associated with haemolytic uraemic syndrome may occur (rare) with gemcitabine. Use caution with pre-existing renal impairment.

DRUG INTERACTIONS:

- Current SmPC and drug interaction databases should be consulted for information.

REFERENCES:

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4. Giraud E L, Lijster B D, et al. Dose recommendations for anticancer drugs in patients with renal or hepatic impairment: an update. Available at: https://pubmed.ncbi.nlm.nih.gov/37269847/
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8. Gemcitabine 40mg/mL Summary of Product Characteristics. Last updated 07/02/2025. Accessed March 2025. Available at: https://www.hpra.ie/find-a-medicine/for-human-use/authorised-medicines/details/27418

Version	Date	Amendment	Approved By
1	15/02/2016		Dr Derek Power, Prof Maccon Keane

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2	10/02/2018	Updated with new NCCP regimen template. Updated emetogenic status and dosing in renal and hepatic impairment.	Prof Maccon Keane
3	26/02/2020	Reviewed.	Prof Maccon Keane
4	24/02/2022	Brand name Abraxane® removed. ATC codes removed. Updated reference section.	Prof Maccon Keane
5	14/03/2024	Updated renal and hepatic recommendations in line with Giraud et al, 2023. Updated adverse effects for gemcitabine as per NCCP standardisation.	Prof Maccon Keane
6	16/04/2025	Regimen reviewed. Updated eligibility section. Updated exclusions and cautions section. Supportive care, adverse effects and regimen specific complications updated in line with NCCP standardisation.	Prof Maccon Keane
7	07/11/2025	Updated adverse events table (Table 4) to include information on SCARs.	Prof Maccon Keane

Comments and feedback welcome at oncologydrugs@cancercontrol.ie.

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