Thames Valley
Chemotherapy Regimens
Head and Neck Cancer
Notes from the editor

These regimens are available on the Network website www.tvscn.nhs.uk.

Any correspondence about the regimens should be addressed to:
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Tel: 01865 857158 to leave a message

Acknowledgements
These regimens have been compiled by the Network Pharmacy Group in collaboration with the Head & Neck TSSG with key contribution from
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Dr Nicola Dallas, Consultant Oncologist, RBH
Dr Ketan Shah, Consultant Oncologist, OUH
The regimens listed below are in use across the Thames Valley Cancer Network for the treatment of Head and Neck cancer.

**Date published:** September 2015
**Date of review:** September 2017

### Chemotherapy Protocols

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List of amendments in this version

Regimen type: Head and Neck Tumours
Date due for review: September 2017
Previous version number: 3.4
This version number: 3.5

Clinicians may use their discretion when following regimens.

Table 1 Amendments

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Table 2 New regimens to be approved and checked by TSSG included in this version

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<tr>
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<td>Cetuximab 2 weekly</td>
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</table>
CISPLATIN / FLUOROURACIL (CF 100) infusor

**Indication:** Neoadjuvant treatment of squamous cell carcinoma

**DRUG REGIMEN**

**Day 1**  Pre-hydration

**CISPLATIN** 100mg/m² in 1000ml sodium chloride 0.9% infusion over 2 hours

**FLUOROURACIL** 4000mg/m² in an infusor over 96 hours

Post-hydration

**Cycle Frequency:** Every 21 days

**For neoadjuvant treatment:** Usually 2 cycles given prior to radiotherapy or definitive surgery

**Palliative treatment:** Up to 6 cycles depending upon response

**DOSE MODIFICATIONS**

**Cisplatin:**
- GFR >60ml/min give 100% dose
- GFR 45-60ml/min give 75% dose
- GFR <45ml/min omit dose

If patient complains of tinnitus, tingling of fingers and/or toes discuss with SpR or Consultant before administration

**Fluorouracil:**
- Consider dose reduction in severe renal impairment only.
- Bilirubin <85 micromol/L or ALT/AST <180 give 100% dose
- Bilirubin >85 micromol/L or ALT/AST >180 omit
- Clinical decision.
- Moderate hepatic impairment give initial dose 66.6%
- Severe hepatic impairment, give initial dose 50%
- Increase dose if no toxicity

**Treatment delays**
- If Neutrophils <1.5 x 10^9/L and/or the platelet count < 100 x 10^9/L delay the second course by one week, recheck blood count.
- If satisfactory (>1.5 x 10^9/L and > 100x 10^9/L) dose give 75% dose Cisplatin and 5FU.
- If not satisfactory delay by a further week and recheck blood count, if satisfactory (>1.5 x 10^9/L and >100 x 10^9/L) then give 50% dose Cisplatin and 5FU.
- If still unsatisfactory after 2 week delay chemotherapy should be discontinued.
INVESTIGATIONS
Routine Blood test
1) Blood results required before chemotherapy administration
   Give  Discuss
   Hb x g/dL  ≥10  < 10
   Plt x 10^9/L  ≥100  < 100
   Neutrophils x 10^9/L  ≥1.5  < 1.5

Creatinine clearance (GFR) calculated or EDTA at the Consultant discretion. (Cisplatin)
A creatinine result from within the last month can be used to authorise chemotherapy. A blood test for creatinine should then be taken on day 1 and reviewed as soon as it is available after treatment had started.

2) Non urgent blood tests
   Tests relating to disease response/progression

CONCURRENT MEDICATION
Hydration must be given pre and post cisplatin (see standard pre and post hydration regimens)
Ensure adequate pre and post hydration prescribed as per day case schedule at the end of the TVCN protocols. If urine output is < 100 ml/hour or patient gains > 2kg in weight during IV administration post Cisplatin give 20-40 mg Furosemide PO/IV or 200 ml Mannitol 10% IV

ANTIEMETIC POLICY
Highly emetogenic day 1
Low emetogenic risk days 2, 3, 4

ADVERSE EFFECTS / REGIMEN SPECIFIC COMPLICATIONS
Palmar plantar (handfoot syndrome) causing red palms and soles – treat with pyridoxine 50mg tds
Mucositis – use routine mouthcare
Diarrhoea – treat with codeine or loperamide
Nephrotoxicity – ensure adequate pre and post hydration is prescribed
Cardiotoxicity - special attention is advisable in treating patients with a history of heart disease, arrhythmias or angina pectoris or those who develop chest pain during treatment with fluorouracil.
CETUXIMAB with concurrent Radiotherapy

**Indication:** Radical and adjuvant treatment of head and neck squamous cell carcinoma with radiotherapy

NICE: Cetuximab in combination with radiotherapy is recommended as a possible treatment for people with locally advanced squamous cell cancer of the head and neck if they have a Karnofsky performance-status score of 90% or more, and all forms of platinum-based chemotherapy are considered inappropriate.

**DRUG REGIMEN**

**Day -7:** Loading dose (once only, in the week before radiotherapy commences)
- CHLORPHENAMINE 10mg IV injection
- CETUXIMAB 400mg/m² IV infusion over 120 minutes.
  Flush with sodium chloride 0.9% after infusion

**Days 1, 8, 15, 22, 29, 36:** Maintenance doses (weekly during radiotherapy)
- CHLORPHENAMINE 10mg IV injection
- CETUXIMAB 250mg/m² IV infusion over 60 minutes
  Flush with sodium chloride 0.9% after infusion

**Note:** The maximum infusion rate must not exceed 5 ml/min. Close monitoring is required during the infusion and for at least 1 hour after the end of the infusion. Filters may occasionally clog up during the infusion. If there is evidence of filter clogging, the filter must be replaced [1]

**DOSE MODIFICATIONS**

Previous neutropenic sepsis, discuss with Consultant or Registrar. Unlikely to require a reduction. In hepatic or renal impairment.

**INVESTIGATIONS**

Routine Blood tests
1. Blood results required before chemotherapy administration
   - Give                  Discuss
     Hb x g/dL         if>or= 9 <9
     Plt x 10⁹/L       if>or= 100 <100
     Neutrophils x 10⁹/L if>or= 1.5 <1.5
   - GFR assessed using ⁵¹Cr-EDTA result or calculated creatinine clearance at the Consultant’s discretion.
   - LFTs
2. Non-urgent Blood tests
   Tests relating to disease response/progression.
CONCURRENT MEDICATIONS
Premedication prior to cetuximab with an antihistamine is recommended.

Note 2 Side effects: Hypersensitivity reactions if the patient experiences a mild or moderate hypersensitivity reaction, the infusion rate may be decreased. It is recommended to maintain this lower infusion rate in all subsequent infusions.

Severe hypersensitivity reactions (~4%) Symptoms usually occurred during the initial infusion and up to 1 hour after the end of infusion, but may occur after several hours (It is recommended to warn patients of this). Occurrence of a severe hypersensitivity reaction requires immediate and permanent discontinuation of cetuximab therapy and may necessitate emergency treatment.

Dyspnoea may occur as part of a hypersensitivity reaction, but has also been reported after several weeks of therapy. Patients with high age, impaired performance status and underlying pulmonary disorders may be at increased risk for dyspnoea, which may be severe and/or long-standing. It is recommended to investigate patients for signs of progressive pulmonary disorders as appropriate.

Skin reactions If a patient experiences a severe skin reaction therapy must be interrupted. Treatment may only be resumed, if the reaction has resolved. With the second occurrence of a severe reaction, treatment may only be resumed at 200 mg/m² after interruption. With the third occurrence of a severe reaction, treatment may only be resumed at 150 mg/m² after interruption. If severe skin reactions occur a fourth time or do not resolve during interruption of treatment, permanent discontinuation of cetuximab treatment is required. [1]

ADVERSE EFFECTS / REGIMEN SPECIFIC COMPLICATIONS
Gastrointestinal perforation
Haemorrhage
Arterial thromboembolism

ANTI-EMETIC POLICY
Minimal emetic risk all days

REFERENCES
Cetuximab June 2004 www.medicines.org.uk
CETUXIMAB

Indication: The first line treatment of advanced head and neck cancer with 1st line palliative combination chemotherapy, PS 0 or 1

Ensure funding has been obtained for individual patient prior to prescribing

DRUG REGIMEN

Day 1: Loading dose (once only)
- CHLORPHENAMINE 10mg IV injection
- CETUXIMAB 400mg/m² IV infusion over 120 minutes.
  Flush with sodium chloride 0.9% after infusion

Day 8: Maintenance dose
- CHLORPHENAMINE 10mg IV injection
- CETUXIMAB are 250mg/m² IV infusion over 60 minutes
  Flush with sodium chloride 0.9% after infusion

Note: The maximum infusion rate must not exceed 5 ml/min. Close monitoring is required during the infusion and for at least 1 hour after the end of the infusion. Filters may occasionally clog up during the infusion. If there is evidence of filter clogging, the filter must be replaced [1]

Cycle frequency: Repeat Maintenance dose (day 8) every 7 days

DOSE MODIFICATIONS

Previous neutropenic sepsis, discuss with Consultant or Registrar.
Unlikely to require a reduction. In hepatic or renal impairment.

INVESTIGATIONS

Routine Blood tests
1. Blood results required before chemotherapy administration
   Give                               Discuss
   Hb x g/dL          if>or=  9      <9
   Plt x 109/L        if>or=  100    <100
   Neutrophils x 109/L if>or= 1.5  <1.5
• GFR assessed using 51Cr-EDTA result or calculated creatinine clearance at the Consultant's discretion.
• LFTs
2. Non-urgent Blood tests
   Tests relating to disease response/progression.

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<thead>
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<th>Cetuximab</th>
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Published: September 2015
Review: September 2017
Version 3.5
CONCURRENT MEDICATIONS
Premedication prior to cetuximab with an antihistamine is recommended.

Note 2 Side effects: Hypersensitivity reactions if the patient experiences a mild or moderate hypersensitivity reaction, the infusion rate may be decreased. It is recommended to maintain this lower infusion rate in all subsequent infusions.

Severe hypersensitivity reactions (~4%) Symptoms usually occurred during the initial infusion and up to 1 hour after the end of infusion, but may occur after several hours (It is recommended to warn patients of this). Occurrence of a severe hypersensitivity reaction requires immediate and permanent discontinuation of cetuximab therapy and may necessitate emergency treatment.

Dyspnoea may occur as part of a hypersensitivity reaction, but has also been reported after several weeks of therapy. Patients with high age, impaired performance status and underlying pulmonary disorders may be at increased risk for dyspnoea, which may be severe and/or long-standing. It is recommended to investigate patients for signs of progressive pulmonary disorders as appropriate.

Skin reactions If a patient experiences a severe skin reaction therapy must be interrupted. Treatment may only be resumed, if the reaction has resolved. With the second occurrence of a severe reaction, treatment may only be resumed at 200 mg/m² after interruption. With the third occurrence of a severe reaction, treatment may only be resumed at 150 mg/m² after interruption. If severe skin reactions occur a fourth time or do not resolve during interruption of treatment, permanent discontinuation of cetuximab treatment is required. [1]

ADVERSE EFFECTS / REGIMEN SPECIFIC COMPLICATIONS
Gastrointestinal perforation
Haemorrhage
Arterial thromboembolism

ANTI-EMETIC POLICY
Minimal emetic risk all days

REFERENCES
Cetuximab June 2004 www.medicines.org.uk
CETUXIMAB (2 weekly)

Indication: The first line treatment of advanced head and neck cancer with 1st line palliative combination chemotherapy, PS 0 or 1

Ensure funding has been obtained for individual patient prior to prescribing

DRUG REGIMEN
Day 1: CHLORPHENAMINE 10mg IV injection
CETUXIMAB 500mg/m² IV infusion over 120 minutes cycle 1, if tolerated subsequent cycles may be administered at a rate not exceeding 10mg/min.
Flush with sodium chloride 0.9% after infusion

Note: The maximum infusion rate must not exceed 5 ml/min. Close monitoring is required during the infusion and for at least 1 hour after the end of the infusion. Filters may occasionally clog up during the infusion. If there is evidence of filter clogging, the filter must be replaced [1]

Cycle frequency: Repeat every 14 days

DOSE MODIFICATIONS
Previous neutropenic sepsis, discuss with Consultant or Registrar.
Unlikely to require a reduction. In hepatic or renal impairment.

INVESTIGATIONS
Routine Blood tests
1. Blood results required before chemotherapy administration
Give Discuss
Hb x g/dL if>or= 9 <9
Plt x 109/L if>or= 100 <100
Neutrophils x 109/L if>or= 1.5 <1.5
• GFR assessed using 51Cr-EDTA result or calculated creatinine clearance at the Consultant’s discretion.
• LFTs
2. Non-urgent Blood tests
Tests relating to disease response/progression.
CONCURRENT MEDICATIONS

Premedication prior to cetuximab with an antihistamine is recommended.

Note 2 Side effects: Hypersensitivity reactions if the patient experiences a mild or moderate hypersensitivity reaction, the infusion rate may be decreased. It is recommended to maintain this lower infusion rate in all subsequent infusions.

Severe hypersensitivity reactions (~4%) Symptoms usually occurred during the initial infusion and up to 1 hour after the end of infusion, but may occur after several hours (It is recommended to warn patients of this). Occurrence of a severe hypersensitivity reaction requires immediate and permanent discontinuation of cetuximab therapy and may necessitate emergency treatment.

Dyspnoea may occur as part of a hypersensitivity reaction, but has also been reported after several weeks of therapy. Patients with high age, impaired performance status and underlying pulmonary disorders may be at increased risk for dyspnoea, which may be severe and/or long-standing. it is recommended to investigate patients for signs of progressive pulmonary disorders as appropriate.

Skin reactions If a patient experiences a severe skin reaction therapy must be interrupted. Treatment may only be resumed, if the reaction has resolved. With the second occurrence of a severe reaction, treatment may only be resumed at 200 mg/m² after interruption. With the third occurrence of a severe reaction, treatment may only be resumed at 150 mg/m² after interruption. If severe skin reactions occur a fourth time or do not resolve during interruption of treatment, permanent discontinuation of cetuximab treatment is required. [1]

ADVERSE EFFECTS / REGIMEN SPECIFIC COMPLICATIONS

Gastrointestinal perforation
Haemorrhage
Arterial thromboembolism

ANTI-EMETIC POLICY

Minimal emetic risk all days

REFERENCES

Cetuximab June 2004  www.medicines.org.uk
**CISPLATIN / FLUOROURACIL (CF 80) infusor**

*Indication: Palliative treatment of head and neck cancer*

**DRUG REGIMEN**

**Day 1**  
Pre-hydration  
**CISPLATIN** 80mg/m² in 1000ml sodium chloride 0.9% infusion over 2 hours  
**FLUOROURACIL** 3200mg/m² in an infusor over 96 hours

Post-hydration

*Cycle Frequency: Every 21 days for up to 6 cycles depending on tolerance and response*

**DOSE MODIFICATIONS**

*Cisplatin:*
- GFR >60ml/min give 100% dose  
- GFR 45-60ml/min give 75% dose  
- GFR <45ml/min consider carboplatin

If patient complains of tinnitus, tingling of fingers and/or toes discuss with SpR or Consultant before administration

*Fluorouracil:*
- Consider dose reduction in severe renal impairment only.  
  - Bilirubin <85 micromol/L or ALT/AST <180 give 100% dose  
  - Bilirubin >85micromol/L or ALT/AST >180 omit  
- Clinical decision.  
- Moderate hepatic impairment give initial dose 66.6%  
- Severe hepatic impairment, give initial dose 50%  
- Increase dose if no toxicity

*Treatment delays*
- If Neutrophils <1.5 x 10^9/L and/or the platelet count < 100 x 10^9/L delay the second course by one week, recheck blood count.  
- If satisfactory (>1.5 x 10^9/L and > 100x 10^9/L) dose reduce Cisplatin and 5FU by 25%.  
- If not satisfactory delay by a further week and recheck blood count, if satisfactory (>1.5 x 10^9/L and >100 x 10^9/L) then dose reduce Cisplatin and 5FU by 50%.  
- If still unsatisfactory after 2 week delay chemotherapy should be discontinued.
INVESTIGATIONS
Routine Blood test 1) Blood results required before chemotherapy administration

Give  Discuss

- Hb x g/dL  \( \geq 10 \)  \(< 10 \)
- Plt x \(10^9/L\)  \( \geq 100 \)  \(< 100 \)
- Neutrophils x \(10^9/L\)  \( \geq 1.5 \)  \(< 1.5 \)

Creatinine clearance (GFR) calculated or EDTA at the Consultant discretion. (Cisplatin)
A creatinine result from within the last month can be used to authorise chemotherapy. A blood test for creatinine should then be taken on day 1 and reviewed as soon as it is available after treatment had started.

2) Non urgent blood tests.
Tests relating to disease response/progression

CONCURRENT MEDICATION
Hydration must be given pre and post cisplatin (see standard pre and post hydration regimens)
Ensure adequate pre and post hydration prescribed as per day case schedule at the end of the TVCN protocols. If urine output is \(< 100 \text{ ml/hour or patient gains } > 2\text{kg in weight during IV administration} post Cisplatin give 20-40 \text{ mg Furosemide PO/IV or 200 ml Mannitol 10\% IV}

ANTIEMETIC POLICY
Highly emetogenic day 1
Low emetogenic risk days 2, 3, 4

ADVERSE EFFECTS / REGIMEN SPECIFIC COMPLICATIONS
Palmar plantar (handfoot syndrome) causing red palms and soles – treat with pyridoxine 50mg tds
Mucositis – use routine mouthcare
Diarrhoea – treat with codeine or loperamide
Nephrotoxicity – ensure adequate pre and post hydration is prescribed
Ototoxicity – assess patient for tinnitus or hearing abnormalities
Cardiotoxicity - special attention is advisable in treating patients with a history of heart disease, arrhythmias or angina pectoris or those who develop chest pain during treatment with fluorouracil.
CARBOPLATIN / FLUOROURACIL infusor

Indication: Palliative treatment of head and neck cancer

DRUG REGIMEN
Day 1 CARBOPLATIN AUC 5 in 500ml glucose 5% infusion over 60 minutes
FLUOROURACIL 3200mg/m² in an infusor over 96 hours

Cycle Frequency: Every 21 days for up to 6 cycles depending on tolerance and response

DOSE MODIFICATIONS

Carboplatin:
Discuss if patient has a serum creatine >150 micromol/L
if GRF/ calculated CrCl <20ml/min discuss with consultant

Fluorouracil:
Consider dose reduction in severe renal impairment only.
Bilirubin <85 micromol/L or ALT/AST <180 give 100% dose
Bilirubin >85micromol/L or ALT/AST >180 omit
Clinical decision.
Moderate hepatic impairment give initial dose 66.6%
Severe hepatic impairment, give initial dose 50%
Increase dose if no toxicity

Treatment delays
If Neutrophils <1.5 x 10^9/L and/or the platelet count < 100 x 10^9/L delay the second course by one week, recheck blood count.
If satisfactory (>1.5 x 10^9/L and > 100x 10^9/L) dose reduce Cisplatin and 5FU by 25%.
If not satisfactory delay by a further week and recheck blood count, if satisfactory (>1.5 x 10^9/L and >100 x 10^9/L) then dose reduce Cisplatin and 5FU by 50%.
If still unsatisfactory after 2 week delay chemotherapy should be discontinued.
INVESTIGATIONS
Routine Blood test 1) Blood results required before chemotherapy administration

Give Discuss

Hb x g/dL ≥10 < 10
Plt x 10^9/L ≥100 < 100
Neutrophils x 10^9/L ≥1.5 < 1.5

Creatinine clearance (GFR) calculated or EDTA at the Consultant discretion. (Cisplatin)
A creatinine result from within the last month can be used to authorise chemotherapy. A blood test for creatinine should then be taken on day 1 and reviewed as soon as it is available after treatment had started.

2) Non urgent blood tests.
Tests relating to disease response/progression

CONCURRENT MEDICATION

ANTIEMETIC POLICY
Moderately emetogenic day 1
Low emetogenic risk days 2, 3, 4

ADVERSE EFFECTS / REGIMEN SPECIFIC COMPLICATIONS
Palmar plantar (handfoot syndrome) causing red palms and soles – treat with pyridoxine 50mg tds
Mucositis – use routine mouthcare
Diarrhoea – treat with codeine or loperamide
Ototoxicity – assess patient for tinnitus or hearing abnormalities
Cardiotoxicity - special attention is advisable in treating patients with a history of heart disease, arrhythmias or angina pectoris or those who develop chest pain during treatment with fluorouracil.
CISPLATIN with concurrent Radiotherapy (100)

Indication: Radical treatment of squamous cell carcinoma in patients of WHO performance status 0

DRUG REGIMEN
Day 1 Pre-hydration
CISPLATIN 100mg/m² in 1000 ml sodium chloride 0.9% infusion over 2-4 hours
Post-hydration

Cycle Frequency: Every 21 days for 2 cycles (usually day 1 and 22 during radiotherapy)

DOSE MODIFICATIONS
Cisplatin:
- GFR >60ml/min give 100% dose
- GFR 45-60ml/min give 75% dose
- GFR <45ml/min omit dose

If patient complains of tinnitus, tingling of fingers and/or toes discuss with SpR or Consultant before administration

INVESTIGATIONS
Routine Blood test 1) Blood results required before chemotherapy administration

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<td>&lt; 10</td>
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<tr>
<td>Plt x 10⁹/L</td>
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Creatinine clearance (GFR) calculated or EDTA at the Consultant’s discretion. (Cisplatin)
A creatinine result from within the last month can be used to authorise chemotherapy. A blood test for creatinine should then be taken on day 1 and reviewed as soon as it is available after treatment had started.

Consider transfusions to keep Hb > 12 x g/dL.

2) Non urgent blood tests.
Tests relating to disease response/progression
CONCURRENT MEDICATION
Hydration must be given pre and post cisplatin (see standard pre and post hydration regimens) Ensure adequate pre-and post-hydration prescribed as per hydration schedules at the end of the TVCN protocols.
If patient gains >2kg in weight or urine output is < 100ml/hour during IV administration post Cisplatin give 20 – 40mg Furosemide PO/IV OR 200ml Mannitol 10% IV

ANTIEMETIC POLICY
Highly emetogenic day 1
Aprepitant (OUH)

ADVERSE EFFECTS / REGIMEN SPECIFIC COMPLICATIONS
Nephrotoxicity – ensure adequate pre and post hydration is prescribed
Ototoxicity – assess patient for tinnitus or hearing abnormalities
CISPLATIN with concurrent Radiotherapy (80)

Indication: Radical treatment of squamous cell carcinoma in patients of WHO performance status 1 or 2

DRUG REGIMEN
Day 1 Pre-hydration
CISPLATIN 80mg/m² in 1000 ml sodium chloride 0.9% infusion over 2-4 hours
Post-hydration

Cycle Frequency: Every 21 days for 2 cycles (usually day 1 and 22 during radiotherapy)

DOSE MODIFICATIONS
Cisplatin:
GFR >60ml/min give 100% dose
GFR 45-60ml/min give 75% dose
GFR <45ml/min omit dose

If patient complains of tinnitus, tingling of fingers and/or toes discuss with SpR or Consultant before administration

INVESTIGATIONS
Routine Blood test 1) Blood results required before chemotherapy administration

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Creatinine clearance (GFR) calculated or EDTA at the Consultant’s discretion. (Cisplatin)
A creatinine result from within the last month can be used to authorise chemotherapy. A blood test for creatinine should then be taken on day 1 and reviewed as soon as it is available after treatment had started.

Consider transfusions to keep Hb > 12 x g/dL.

2) Non urgent blood tests.
Tests relating to disease response/progression
CONCURRENT MEDICATION
Hydration must be given pre and post cisplatin (see standard pre and post hydration regimens)
Ensure adequate pre-and post-hydration prescribed as per hydration schedules at the end of the TVCN protocols.
If patient gains >2kg in weight or urine output is < 100ml/hour during IV administration post cisplatin give 20 – 40mg Furosemide PO/IV OR 200ml Mannitol 10% IV

ANTIEMETIC POLICY
Highly emetogenic day 1
Aprepitant (OUH)

ADVERSE EFFECTS / REGIMEN SPECIFIC COMPLICATIONS
Nephrotoxicity – ensure adequate pre and post hydration is prescribed
Ototoxicity – assess patient for tinnitus or hearing abnormalities
CISPLATIN weekly with concurrent Radiotherapy (40)

*Indication: Radical treatment of head and neck squamous cell carcinoma*

**DRUG REGIMEN**

Day 1,8,15,22,29,36  
Pre-hydration  
**CISPLATIN** 40mg/m² in 1000 ml sodium chloride infusion over 2-4 hours (max dose 70mg)  
Post-hydration

Cisplatin should be given as early as possible in the week as cisplatin potentiates the radiotherapy.

*Cycle Frequency: Every 7 days for 6 weeks during radiotherapy*

**DOSE MODIFICATIONS**

*Cisplatin:*  
GFR >60ml/min give 100% dose  
GFR 45-60ml/min give 75% dose  
GFR <45ml/min consider carboplatin

If patient complains of tinnitus, tingling of fingers and/or toes discuss with SpR or Consultant before administration

**INVESTIGATIONS**

Routine Blood test 1) Blood results required before chemotherapy administration

<table>
<thead>
<tr>
<th></th>
<th><strong>Give</strong></th>
<th><strong>Discuss</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Hb x g/dL</td>
<td>≥10</td>
<td>&lt; 10</td>
</tr>
<tr>
<td>Plt x 10⁹/L</td>
<td>≥100</td>
<td>&lt; 100</td>
</tr>
<tr>
<td>Neutrophils x 10⁹/L</td>
<td>≥1.5</td>
<td>&lt; 1.5</td>
</tr>
</tbody>
</table>

Creatinine clearance (GFR) calculated or EDTA at the Consultant’s discretion. (Cisplatin)  
A creatinine result from within the last month can be used to authorise chemotherapy. A blood test for creatinine should then be taken on day 1 and reviewed as soon as it is available after treatment had started.

Consider transfusions to keep Hb > 12 x g/dL

2) Non urgent blood tests. Tests relating to disease response/progression
CONCURRENT MEDICATION
Pre and post hydration must be given with cisplatin (see standard pre and post hydration regimens)
Ensure adequate pre-and post-hydration prescribed as per TVCN protocols. If patient gains >2kg in weight or urine output <100ml/hour during IV administration post Cisplatin give 20 - 40 mg Furosemide PO/IV OR 200ml Mannitol 10% IV

ANTIEMETIC POLICY
Moderately emetogenic.

ADVERSE EFFECTS / REGIMEN SPECIFIC COMPLICATIONS
Nephrotoxicity – ensure adequate pre and post hydration is prescribed
Ototoxicity – assess patient for tinnitus or hearing abnormalities
DOCETAXEL (75)

**Indication:** Palliative treatment of head and neck squamous cell carcinoma

**DRUG REGIMEN**

**Day 1**

PREMEDICATION: **DEXAMETHASONE** 8 mg BD starting 24 hours before chemotherapy (or 20mg IV on day of chemotherapy) and 8mg bd post-chemotherapy for 2 days (for patients who are unable to tolerate high doses of steroids 4mg doses may be considered)

**DOCETAXEL** 75mg/m\(^2\) infusion in 250ml sodium chloride 0.9% over 60 minutes

**Cycle Frequency:** Every 21 days

**Number of cycles:** Individualised but not usually more than 6 (subject to tolerance and response)

**DOSE MODIFICATIONS**

Discuss if severe cutaneous reactions, peripheral neuropathy or fluid retention after previous course.

Patients who have both elevations of transaminase (ALT and/or AST) > 1.5 x ULN and ALP > 2.5 x ULN: the SPC recommended dose is 75mg/m\(^2\).

Patients with serum bilirubin > ULN and/or ALT and AST > 3.5 x ULN associated with ALP > 6 x ULN: docetaxel should not be used unless strictly indicated.

**INVESTIGATIONS**

Routine Blood test

1) Blood results required before chemotherapy administration

<table>
<thead>
<tr>
<th>Blood Parameter</th>
<th>Give</th>
<th>Discuss</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hb x g/dL</td>
<td>≥10</td>
<td>&lt; 10</td>
</tr>
<tr>
<td>Plt x 10(^9)/L</td>
<td>≥100</td>
<td>&lt; 100</td>
</tr>
<tr>
<td>Neutrophils x 10(^9)/L</td>
<td>≥1.5</td>
<td>&lt; 1.5</td>
</tr>
</tbody>
</table>

2) Non urgent blood tests

Tests relating to disease response/progression
CONCURRENT MEDICATION
Ensure pre-medication is given.
This can reduce the incidence and severity of fluid retention as well as the severity of hypersensitivity reactions

ANTIEMETIC POLICY
Low emetic risk

ADVERSE EFFECTS / REGIMEN SPECIFIC COMPLICATIONS
Discuss if severe cutaneous reactions, peripheral neuropathy or fluid retention after previous course.

REFERENCES
PACLITAXEL weekly

Indication: Palliative treatment of head and neck squamous cell carcinoma

DRUG REGIMEN
Day 1  PREMEDICATION 30mins prior to infusion:
  DEXAMETHASONE 8mg IV bolus
  RANITIDINE 50mg IV bolus
  CHLORPHENAMINE 10mg IV bolus

  PACLITAXEL 80mg/m² in 250ml sodium chloride 0.9% infusion over 1 hour

Cycle Frequency: Every 7 days for 6 weeks

DOSE MODIFICATIONS
If patient complains of tinnitus, tingling of fingers and/or toes or motor weakness discuss with Consultant or Registrar before administration.

In the absence of Gilbert's syndrome:
Bilirubin >51micromol/L stop treatment

INVESTIGATIONS
Routine Blood test
1) Blood results required before chemotherapy administration
   Give  Discuss
   Hb x g/dL ≥10  < 10
   Plt x 10⁹/L ≥100  < 100
   Neutrophils x 10⁹/L ≥1.5  < 1.5
   Liver function tests (LFT)

2) Non urgent blood tests
   Tests relating to disease response/progression

CONCURRENT MEDICATION
Ensure pre-medication is given.

ANTIEMETIC POLICY
Low emetogenic risk
ADVERSE EFFECTS / REGIMEN SPECIFIC COMPLICATIONS
(2% risk of severe hypersensitivity)
Reactions range from mild hypotension (light-headedness) to full cardiac collapse (anaphylactic shock). Discontinue infusion and resuscitate appropriate to reaction. If reaction is mild and settles promptly (i.e. within 5-10 minutes), cautiously restart at a slower rate under close supervision. If further reactions occur stop treatment.

REFERENCE
Grau JJ et al Weekly paclitaxel for platin-resistant stage IV head and neck cancer patients.
METHOTREXATE weekly

*Indication: Palliative treatment for squamous cell carcinoma*

**DRUG REGIMEN**

Day 1 METHOTREXATE 25mg/m² (according to performance status) IV bolus

NB Methotrexate dose may be increased up to 50mg/m².

*Cycle Frequency: Every 7 days for 6 cycles continued according to response. Once the patient has achieved a response the frequency may be gradually reduced to 3 or 4 weekly.*

**DOSE MODIFICATIONS**

- CrCl 45 - 60mL/min give 65% dose
- CrCl 30 - 45mL/min give 50% dose
- CrCl <30mL/min omit dose
- Bilirubin 51 - 85micromol/L or ALT/AST >180 give 75% dose
- Bilirubin >85micromol/L omit

Previous neutropenic sepsis, discuss with Consultant or Registrar

**INVESTIGATIONS**

Routine Blood test 1) Blood results required before chemotherapy administration

- Give
- Discuss

Hb x g/dL ≥10 < 10
Plt x 10⁹/L ≥100 < 100
Neutrophils x 10⁹/L ≥1.5 < 1.5

2) Non urgent blood tests
Tests relating to disease response/progression

**CONCURRENT MEDICATION**

Calcium folinate (folinic acid, leucovorin) 15mg PO/IV every 6 hours for 6 does starting 24 hours after Methotrexate if:

- Pleural effusions/ascites
- Previous mucositis
- Serum creatinine > 120 micromols/L

**ANTIEMETIC POLICY**

Minimal emetic risk

**ADVERSE EFFECTS / REGIMEN SPECIFIC COMPLICATIONS**

Methotrexate induced mucositis - folinic acid (calcium folinate) rescue (see concurrent medication)
Pre-hydration and post-hydration regimens

Ensure adequate diuresis is obtained prior to administration and maintained during and after administration.

1. **Inpatient**
   - **Pre**: 1L sodium chloride 0.9% + 20mmol KCl + 8mmol MgSO₄ infusion over 4 hours
     - *Give cisplatin in 1000ml volume over 4 hours*
   - **Post**: 1L sodium chloride 0.9% + 20mmol KCl + 8mmol MgSO₄ infusion over 4 hours
     - 1L sodium chloride 0.9% + 20mmol KCl + 8mmol MgSO₄ infusion over 4 hours
     - NB 1L sodium chloride 0.9% + 20mmol KCl + 8mmol MgSO₄ infusion over 6 hours if oral intake is inadequate

2. **Day case**
   - **Pre**: 1L sodium chloride 0.9% + 20 mmol KCl + 8mmol MgSO₄ infusion over 2 hours
     - 200ml mannitol 10% infusion over 30 minutes
     - *Give cisplatin in 1000ml volume over 2 hours*
   - **Post**: 1L sodium chloride 0.9% + 20 mmol KCl + 8mmol MgSO₄ infusion over 2 hours
     - NB Furosemide 40mg may be added if required
## Common Toxicity Criteria

<table>
<thead>
<tr>
<th>Toxicity</th>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Allergic</strong></td>
<td>None</td>
<td>Transient rash, drug fever &lt;38°C (100.4°F)</td>
<td>Urticaria, drug fever ≥38°C (100.4°F) and/or asymptomatic bronchospasm</td>
<td>Symptomatic bronchospasm requiring parenteral medication(s) with or without urticaria; allergy related oedema / angioedema</td>
<td>Anaphylaxis</td>
</tr>
<tr>
<td>Alopecia</td>
<td>Normal</td>
<td>Mild hair loss</td>
<td>Pronounced hair loss</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Anorexia</td>
<td>None</td>
<td>Loss of appetite</td>
<td>Oral intake significantly decreased</td>
<td>Requiring IV fluids</td>
<td>Requiring feeding tube or parenteral nutrition</td>
</tr>
<tr>
<td><strong>Blood counts Neutrophils</strong></td>
<td>Within normal limits</td>
<td>1.5x10⁹/L - normal</td>
<td>1.0-1.4x10⁹/L</td>
<td>0.5-0.9x10⁹/L</td>
<td>&lt;0.5x10⁹/L</td>
</tr>
<tr>
<td><strong>Blood counts Haemoglobin</strong></td>
<td>Within normal limits</td>
<td>10.0g/dl – normal</td>
<td>8.0 9.9g/dl</td>
<td>6.5-7.9g/dl</td>
<td>&lt;6.5g/dl</td>
</tr>
<tr>
<td><strong>Blood counts Platelets</strong></td>
<td>Within normal limits</td>
<td>75x10⁹/L - normal</td>
<td>50-74x10⁹/L</td>
<td>10-49x10⁹/L</td>
<td>&lt;10x10⁹/L</td>
</tr>
<tr>
<td><strong>Blood counts White blood count</strong></td>
<td>Within normal limits</td>
<td>3.0x10⁹/L - normal</td>
<td>2.0-2.9x10⁹/L</td>
<td>1.0-1.9x10⁹/L</td>
<td>&lt;1.0x10⁹/L</td>
</tr>
<tr>
<td><strong>Diarrhoea</strong> (patients with colostomy)</td>
<td>None</td>
<td>Mild increase in loose, watery colostomy output compared with pre-treatment</td>
<td>Moderate increase in loose, watery colostomy output compared with pre-treatment, but not interfering with normal activity</td>
<td>Severe increase in loose, watery colostomy output compared with pre-treatment, interfering with normal activity</td>
<td>Physiologic consequences requiring intensive care, or haemodynamic collapse</td>
</tr>
<tr>
<td><strong>Diarrhoea</strong> (patients without colostomy)</td>
<td>None</td>
<td>Increase of &lt;4 stools/day over pre-treatment</td>
<td>Increase of 4-6 stools/day, or nocturnal stools</td>
<td>Increase of ≥ 7 stools/day, or incontinence; or need for parenteral support for dehydration</td>
<td>Physiological consequences requiring intensive care, or haemodynamic collapse</td>
</tr>
<tr>
<td>Hand-foot skin reaction</td>
<td>None</td>
<td>Skin changes or dermatitis without pain</td>
<td>Skin changes with pain, not interfering with function</td>
<td>Skin changes with pain, interfering with function</td>
<td>-</td>
</tr>
<tr>
<td><strong>Hepatic – alk phos</strong></td>
<td>UNL</td>
<td>&gt;ULN – 2.5x ULN</td>
<td>&gt;2.5 – 5.0xULN</td>
<td>5.0 – 20.0xULN</td>
<td>&gt;20.0xULN</td>
</tr>
<tr>
<td><strong>Hepatic – bilirubin</strong></td>
<td>UNL</td>
<td>&gt;ULN – 1.5x ULN</td>
<td>&gt;1.5 – 3.0xULN</td>
<td>3.0 – 10.0xULN</td>
<td>&gt;10.0xULN</td>
</tr>
<tr>
<td>Symptom</td>
<td>None</td>
<td>Increased fatigue over baseline, but not altering normal activities</td>
<td>Moderate (decrease in performance status by level 1) or causing difficulty performing some activities</td>
<td>Severe (decrease in performance status by ≥2 levels), or loss of ability to perform some activities</td>
<td>Bedridden or disabling</td>
</tr>
<tr>
<td>-------------</td>
<td>-----------------------------------------------------------------------</td>
<td>---------------------------------------------------------------------</td>
<td>--------------------------------------------------------------------------------------------------</td>
<td>--------------------------------------------------------------------------------------------------</td>
<td>------------------------</td>
</tr>
<tr>
<td>Lethargy</td>
<td>None</td>
<td>Increased fatigue over baseline, but not altering normal activities</td>
<td>Moderate (decrease in performance status by level 1) or causing difficulty performing some activities</td>
<td>Severe (decrease in performance status by ≥2 levels), or loss of ability to perform some activities</td>
<td>Bedridden or disabling</td>
</tr>
<tr>
<td>Nausea</td>
<td>None</td>
<td>Able to eat</td>
<td>Oral intake significantly decreased</td>
<td>No significant intake, requiring IV fluids</td>
<td>-</td>
</tr>
<tr>
<td>Neuropathy - motor</td>
<td>Normal</td>
<td>Subjective weakness but no objective findings</td>
<td>Mild objective weakness interfering with function, but not interfering with activities of daily living</td>
<td>Objective weakness interfering with activities of daily living</td>
<td>Paralysis</td>
</tr>
<tr>
<td>Neuropathy - sensory</td>
<td>Normal</td>
<td>Loss of deep tendon reflexes or paresthesia (including tingling) but not interfering with function</td>
<td>Objective sensory loss or paresthesia (including tingling), interfering with function, but not interfering with activities of daily living</td>
<td>Sensory loss of paresthesia interfering with activities of daily living</td>
<td>Permanent sensory loss that interferes with function</td>
</tr>
<tr>
<td>Pain</td>
<td>None</td>
<td>Mild pain not interfering with function</td>
<td>Moderate pain: pain or analgesics interfering with function but not interfering with activities of daily living</td>
<td>Severe pain: pain or analgesics severely interfering with activities of daily living</td>
<td>Disabling</td>
</tr>
<tr>
<td>Stomatitis</td>
<td>None</td>
<td>Painless ulcers, erythema or mild soreness</td>
<td>Painful erythema, oedema or ulcers but can eat or swallow</td>
<td>Painful erythema oedema, or ulcers requiring IV hydration</td>
<td>Severe ulceration or requires parenteral or enteral nutritional support or prophylactic intubation</td>
</tr>
<tr>
<td>Vomiting</td>
<td>None</td>
<td>1 episode in 24 hours</td>
<td>2-5 episodes in 24 hours</td>
<td>≥6 episodes in 24 hours, or need for IV fluids</td>
<td>Requiring parenteral nutrition, or physiological consequences requiring intensive care: haemodynamic collapse</td>
</tr>
</tbody>
</table>