Infliximab infusion for patients with Crohn's Disease, Ulcerative Colitis, Rheumatoid Arthritis, Ankylosing Spondylitis, Psoriatic Arthritis and Psoriasis.

Classification: Clinical Guideline
Lead Author: Gavin Leahy, Clinical Pharmacist
Additional author(s): Sarah Wills, Gavin Leahy, Gerda Garside, John Landers (Clinical Pharmacists), Dawn Lavery Advanced Practitioner (Dermatology)
Authors Division: On behalf of Rheumatology, Gastro and Dermatology
Unique ID: Pha1(08)
Issue number: 5
Expiry Date: December 2017

Contents

Who should read this document? ................................................................. 3
Key Practice Points.................................................................................. 3
Background/ Scope/ Definitions .................................................................. 3
What is new in this version? ..................................................................... 3
Guideline .................................................................................................. 4
  1. Infliximab therapy – Indications and dosage .................................. 4
  2. Eligibility for treatment and NICE guidelines ................................ 5
  3. Sourcing funding for Infliximab therapy ........................................ 8
  4. Pre initiation of therapy – screening .............................................. 8
  5. Opportunistic infections ................................................................. 9
  6. Tuberculosis .................................................................................. 9
  7. Contraindications to therapy ......................................................... 10
  8. Concomitant medication ............................................................... 11
  9. Listing patients for treatment ....................................................... 11
 10. Pre infusion monitoring on the Medical Investigation unit .......... 12
 11. When to withhold infusion ............................................................ 12
 12. Administration and Observations ................................................ 12
 13. Infusion reactions ......................................................................... 13
 14. Switching patients from Remicade to Biosimilar Remsima ....... 15
 15. Side effects and toxicity ............................................................... 16
16. Follow up and monitoring by the specialist teams............... 16
Standards ..................................................................................... 17
Explanation of terms ................................................................. 19
References and Supporting Documents ....................................... 19
Roles and responsibilities ............................................................ 21
Appendices .................................................................................. 22
  Appendix 1 New York Heart Association classification of heart failure symptoms........................................... 22
  Appendix 2 Medical investigation unit revised listing form ............. 23
  Appendix 3 Infliximab Prescription ............................................... 24
  Appendix 4 Anaphylaxis protocol for Adults and Children .......... 25
  Appendix 5 Dermatology Life Quality Index ............................. 26
  Appendix 6 Psoriasis Area and Severity Index (PASI) ................. 27
  Appendix 7 Rheumatoid Arthritis Disease Activity Score (DAS28) ..... 28
  Appendix 8 Psoriasis Arthritis Response Criteria ...................... 29
  Appendix 9 Bath Ankylosing Spondylitis Disease Activity Index .... 30
  Appendix 10 Ankylosing Spondylitis Disease Activity Sheet ....... 31
  Appendix 11 Truelove and Witts ................................................. 32
  Appendix 12 Harry Bradshaw Score ........................................... 33

<table>
<thead>
<tr>
<th>Document control information (Published as separate document)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Document Control</td>
</tr>
<tr>
<td>Policy Implementation Plan</td>
</tr>
<tr>
<td>Monitoring and Review</td>
</tr>
<tr>
<td>Endorsement</td>
</tr>
<tr>
<td>Equality analysis</td>
</tr>
</tbody>
</table>

Infliximab infusion for patients with Crohns Disease, Ulcerative Colitis, Rheumatoid Arthritis, Ankylosing Spondylitis, Psoriatic Arthritis and Psoriasis

Current Version is held on the Intranet
Check with Intranet that this printed copy is the latest issue
Who should read this document?

Staff working in Dermatology, Rheumatology, Gastroenterology, pharmacy and on the Medical Investigation Unit (MIU) who are responsible for delivering care to patients who are being prescribed Infliximab.

Key Practice Points

To ensure patient safety through ensuring pre-treatment investigations and screening and subsequent pre-infusion examinations are performed to ensure patient safety.

To ensure that Infliximab is prescribed within the context of published National Institute of Care Excellence (NICE) guidance.

To ensure funding is secured from the patient’s relevant Clinical Commissioning Groups (CCG) within the Trust Medicines Management framework, as treatment with Infliximab is a PBR exclusion.

Background/ Scope/ Definitions

Infliximab is a chimeric human-murine monoclonal antibody that binds with high affinity to Tumour Necrosis factor (TNF)-α, both released and membrane bound, thereby inhibiting its activity. It is commonly referred to as a TNF antagonist.

TNF is a naturally occurring cytokine with multiple biological actions, including the mediation of inflammatory responses and modulation of the immune system. It is thought to play a central role in the immunopathology of several autoimmune diseases.

Infliximab, due to its relatively high costs in relation to conventional therapies, has been subject to NICE technology appraisal. NICE guidance has been published for each of the disease conditions for which Infliximab therapy has been deemed appropriate. (See section 2. Eligibility for treatment and NICE guidelines.

What is new in this version?

Varicella Zoster (VZV IgG) should now be performed for every patient during screening.

A biosimilar Remsima® is now available as an alternative to Remicade®. New starters in gastroenterology, dermatology and rheumatology will be commenced on Remsima®. Existing gastroenterology patients will also be
switched to Remsima®. Existing rheumatology and dermatology patients will continue to receive prescriptions for Remicade®.

**Guideline**

### 1. Infliximab therapy – Indications and dosage

Infliximab is a chimeric human-murine TNF antagonist.

2-5mg/kg is given intravenously at weeks 0, 2, 6 and then every 8 weeks dependent upon clinical condition.

Infliximab is supplied as either the Remicade® or Remsima® brands depending on indication and when treatment was commenced.

**Crohns disease**
Adult over 18 years, initially 5 mg/kg, then 5 mg/kg 2 weeks after initial dose; then if the condition has responded, maintenance 5 mg/kg 6 weeks after initial dose, then 5 mg/kg every 8 weeks;
Child 6–18 years, see BNF for Children

**Fistulating Crohns disease**
Adult over 18 years, initially 5 mg/kg, then 5 mg/kg 2 weeks and 6 weeks after initial dose, then if condition has responded, consult product literature for guidance on further doses;
Child under 18 years, see BNF for Children

**Severe active ulcerative colitis**
Adult over 18 years, initially 5 mg/kg, then 5 mg/kg 2 weeks and 6 weeks after initial dose, then 5 mg/kg every 8 weeks; discontinue if no response 14 weeks after initial dose;
Child 6–18 years, see BNF for Children

**Rheumatoid Arthritis** (in combination with methotrexate)
Adult over 18 years, 3 mg/kg, repeated 2 weeks and 6 weeks after initial infusion, then every 8 weeks; if response inadequate after 12 weeks, dose may be increased in steps of 1.5 mg/kg every 8 weeks, up to max. 7.5 mg/kg every 8 weeks; alternatively, 3 mg/kg may be given every 4 weeks; discontinue if no response by 12 weeks of initial infusion or after dose adjustment

**Ankylosing Spondylitis**
Adult over 18 years, 5 mg/kg, repeated 2 weeks and 6 weeks after initial infusion, then every 6–8 weeks; discontinue if no response by 6 weeks of initial infusion
Psoriatic arthritis (in combination with methotrexate)
Adult over 18 years, 5 mg/kg, repeated 2 weeks and 6 weeks after initial infusion, then every 8 weeks

Severe plaque psoriasis
Adult over 18 years, 5 mg/kg, repeated 2 weeks and 6 weeks after initial infusion, then every 8 weeks; discontinue if no response within 10 weeks of initial infusion
In some patients with poor disease control, the frequency of infusions is shortened to 6 weekly or the dose is increased to 10mg/kg. Funding must be authorized.

All infliximab doses are rounded to the nearest 50mg.

Infliximab Remicade® is prepared by pharmacy aseptics services and has a 7 day expiry. Infliximab Remsima® is routinely outsourced from a specials manufacturer as this affords a 35 day expiry however some Infliximab Remsima® may be prepared by pharmacy aseptic services.

2. Eligibility for treatment and NICE guidelines

Crohns disease
Infliximab within its licensed indication, is recommended as treatment options for adults with severe active Crohn's disease whose disease has not responded to conventional therapy (including immunosuppressive and/or corticosteroid treatments), or who are intolerant of or have contraindications to conventional therapy. Infliximab should be given as a planned course of treatment until treatment failure (including the need for surgery), or until 12 months after the start of treatment, whichever is shorter. People should then have their disease reassessed to determine whether ongoing treatment is still clinically appropriate.

Fistulating Crohn's disease
Infliximab, within its licensed indication, is recommended as a treatment option for people with active fistulising Crohn's disease whose disease has not responded to conventional therapy (including antibiotics, drainage and immunosuppressive treatments), or who are intolerant of or have contraindications to conventional therapy. Infliximab should be given as a planned course of treatment until treatment failure (including the need for surgery) or until 12 months after the start of treatment, whichever is shorter. People should then have their disease reassessed to determine whether ongoing treatment is still clinically appropriate.

Treatment with infliximab should only be continued if there is clear evidence of ongoing active disease as determined by clinical symptoms, biological markers and investigation, including endoscopy if necessary. Specialists should discuss the risks and benefits of continued treatment with patients and
consider a trial withdrawal from treatment for all patients who are in stable clinical remission. People who continue treatment with infliximab or adalimumab should have their disease reassessed at least every 12 months to determine whether ongoing treatment is still clinically appropriate. People whose disease relapses after treatment is stopped should have the option to start treatment again.

**Severe active ulcerative colitis**

Infliximab is recommended as an option for the treatment of acute exacerbations of severely active ulcerative colitis only in patients in whom ciclosporin is contraindicated or clinically inappropriate, based on a careful assessment of the risks and benefits of treatment in the individual patient.

**Rheumatoid Arthritis** (in combination with methotrexate)

The tumour necrosis factor alpha (TNF-α) inhibitors adalimumab, etanercept and infliximab are recommended as options for the treatment of adults who have both of the following characteristics.

- Active rheumatoid arthritis as measured by disease activity score (DAS28) greater than 5.1 confirmed on at least two occasions, 1 month apart.
- Have undergone trials of two disease-modifying anti-rheumatic drugs (DMARDs), including methotrexate (unless contraindicated). A trial of a DMARD is defined as being normally of 6 months, with 2 months at standard dose, unless significant toxicity has limited the dose or duration of treatment.

TNF-α inhibitors should normally be used in combination with methotrexate. Where a patient is intolerant of methotrexate or where methotrexate treatment is considered to be inappropriate, adalimumab and etanercept may be given as monotherapy.

Treatment with TNF-α inhibitors should be continued only if there is an adequate response at 6 months following initiation of therapy. An adequate response is defined as an improvement in DAS28 of 1.2 points or more.

After initial response, treatment should be monitored no less frequently than 6-monthly intervals with assessment of DAS28. Treatment should be withdrawn if an adequate response is not maintained.

An alternative TNF-α inhibitor may be considered for patients in whom treatment is withdrawn due to an adverse event before the initial 6-month assessment of efficacy provided the risks and benefits have been fully discussed with the patient and documented.
Escalation of dose of the TNF-α inhibitors above their licensed starting dose is not recommended.

Use of the TNF-α inhibitors for the treatment of severe, active and progressive rheumatoid arthritis in adults not previously treated with methotrexate or other DMARDs is not recommended.

**Ankylosing Spondylitis**
Infliximab is not recommended for the treatment of ankylosing spondylitis. Patients currently receiving infliximab for the treatment of ankylosing spondylitis should have the option to continue therapy until they and their clinicians consider it appropriate to stop.

**Psoriatic arthritis**
Infliximab is recommended for the treatment of adults with active and progressive psoriatic arthritis when the following criteria are met.

- The person has peripheral arthritis with three or more tender joints and three or more swollen joints, and
- The psoriatic arthritis has not responded to adequate trials of at least two standard disease-modifying antirheumatic drugs (DMARDs), administered either individually or in combination.

**Severe plaque psoriasis**
Infliximab, within its licensed indications, is recommended as a treatment option for adults with plaque psoriasis only when the following criteria are met.

- The disease is very severe as defined by a total Psoriasis Area Severity Index (PASI) of 20 or more and a Dermatology Life Quality Index (DLQI) of more than 18.
- The psoriasis has failed to respond to standard systemic therapies such as ciclosporin, methotrexate or PUVA (psoralen and long-wave ultraviolet radiation), or the person is intolerant to or has a contraindication to these treatments.

Infliximab treatment should be continued beyond 10 weeks only in people whose psoriasis has shown an adequate response to treatment within 10 weeks. An adequate response is defined as either:

- a 75% reduction in the PASI score from when treatment started (PASI 75) or
- a 50% reduction in the PASI score (PASI 50) and a five-point reduction in the DLQI from when treatment started.
3. Sourcing funding for Infliximab therapy

Before patients can be listed for Infliximab therapy, funding must be requested by finance and approved by the patient’s CCG. Therapy will not be initiated until confirmation is received from the finance department that this has been completed. Funding requests should be emailed to the SRFT performance and commissioning team via email: drugfunding@srft.nhs.uk

Upon confirmation of approval of funding, and successful screening, patients can be listed for attendance to MIU for infusion. (Appendix 1)

4. Pre initiation of therapy – screening

Patients are to be screened and assessed for suitability of biologic agents according to NICE guidance and relevant British Medical Societies guidelines.

All patients should undergo a full clinical history, physical examination and further investigations as required, with particular reference to the known toxicity profile of the agent being considered. This should include a symptom enquiry regarding infection, tuberculosis, demyelination, lupus, heart failure and malignancy.

In addition to the above, the British Association of Dermatologists guidelines (Smith et al 2009) recommend that all patients should have a clinical examination (including full skin check; assessment for lymphadenopathy, hepatosplenomegaly), cardiovascular and neurological assessment.

Investigations:

- Full blood count
- Creatinine, Urea and electrolytes
- Liver Function Tests
- Hepatitis B Hepatitis B surface antigen (HBsAg), Hepatitis B core antibody (HB core Ab)
- Hepatitis C antibody
- Autoantibodies (antinuclear antibodies (ANA), antidouble-stranded DNA antibodies (DsNa))
- Human immunodeficiency virus
- Varicella Zoster (VZV IgG)
- Interferon Gamma Assay (IGRA) test
• Chest x-ray
• Urine analysis
• Urine pregnancy test for females
• Echocardiogram (for patients with suspected heart failure)
  Treatment should be used with caution in patients with NYHA class I and II. Patients with an ejection fraction of <50% or moderate to severe heart failure (NYHA class III/IV) should not be prescribed Infliximab.

Gastroenterology also requests the following tests as per their own local protocol:
• Epstein Barr Virus (EBV)
• Cytomegalovirus (CMV)

Dermatology and Rheumatology do not routinely request these tests and would only do so if the patient was unwell and reports symptoms.

5. Opportunistic infections

Before the initiation of infliximab the following opportunistic infections should be excluded:
• Hepatitis B and C (Hepatitis B surface antigen, , Hepatitis B core antibody, Hepatitis C antibody)
• HIV
• Tuberculosis
• Zaricella Zoster

6. Tuberculosis

Patients should be screened at the specialist clinic for active or latent Tuberculosis (TB) before receiving infliximab. This should be through clinical assessment aided by a structured risk assessment questionnaire. In addition, they will have a chest X-Ray to exclude active TB. If active TB is excluded, they will proceed with Interferon Gamma Assay (IGRA) test.

a. If IGRA test is positive, the patient will be referred to the TB clinic for further assessment and consideration for TB prophylaxis course

b. If IGRA test was negative and the patient was not from a high risk group, the patient will be started on biological therapy with no TB
prophylaxis or need to refer to the TB clinic, but to continue monitoring for any suspicious symptoms or signs during the initial 6 months of treatment.

c. If IGRA test was indeterminate refer to the TB clinic for further assessment.

d. If IGRA test is negative but patient is from high risk group (Born in sub-Saharan Africa or southeast Asia, old TB scar/ granuloma in chest x ray or previous history of tuberculosis), the patient will be referred to the TB clinic for further assessment.

Patients of Black African ethnicity aged over 15 years and all patients born in the Indian sub-continent should be assessed by the chest physicians in the Tb clinic and considered for chemoprophylaxis with isoniazid for 6 months.

Patients should be examined clinically for signs of significant acute infection before each infusion.

Active TB has been observed to often present atypically, associated with more severe, extra pulmonary disease. Any features which raise the possibility of active TB warrant immediate investigation.

7. Contraindications to therapy

The assessing practitioner must ensure that Infliximab is not contraindicated for the patient.

Contraindications to therapy are:

- Patients with severe infections (sepsis, abscesses opportunistic infections (e.g. tuberculosis)

- Patients with moderate to severe heart failure (NYHA class III/IV) see Appendix 1.

- Patients with a history of sensitivity to infliximab (although clinical team may rechallenge patients with mild sensitivity reaction)

Infliximab should be used in Pregnancy only if essential. The manufacturer advises adequate contraception during and for at least 6 months after last dose.

The recommendation for use in breast-feeding is that the amount is probably too small to be harmful.
8. Concomitant medication

Gastroenterology and Rheumatology patients receiving Infliximab should also be prescribed an immunosuppressant drug such as Azathioprine or Methotrexate. This reduces the HACA (human anti-chimeric antibody) production against the Infliximab molecule and increases drug levels. HACA’s can reduce response and increase adverse events to the drug.

For Dermatology patients, biologic agents are often used as monotherapy. Concomitant immunosuppressant drugs are not prescribed for every patient on Infliximab. The decision to prescribe is made on an individual patient basis by the dermatologist.

If the patient is not on maintenance immunosuppression or is taking less than 30mg Prednisolone then intravenous Hydrocortisone 100mg is to be given 15 minutes prior to commencing the infusion.

If the patient is unable to tolerate an immunosuppressant and there has been a long delay between treatments, intravenous Hydrocortisone 100mg and oral Chlorphenamine 4mg is to be given prior to the infusion.

9. Listing patients for treatment

Upon confirmation of approval of funding, an MIU listing form (most medical secretaries will have this paperwork - Appendix 1) and a signed prescription (Appendix 2) are to be sent to the MIU admissions coordinators.

The admissions coordinators will annotate on the listing form a mutually agreeable date (unit/patient/medical team/pharmacy) and return to the medical secretary.

A letter confirming this appointment should then be sent from the medical secretary to the patient.

All Infliximab doses to be infused on MIU will be added to the MIU infusion sharepoint. The prescribers responsible for prescribing Infliximab within each of the clinical specialities should have access to MIU Sharepoint. They should check it regularly to identify patients who are due for infliximab and prescribe it within a timely manner. In order for pharmacy aseptics to prepare the dose or for it to be outsourced, the prescription should arrive in pharmacy aseptics at least 3 working days in advance of the patient attending for the infusion.

All prescriptions should include the drug name (Infliximab) and the brand name (Remicade® or Remsima®) and be prescribed on EPR. For MIU infusions the dose must be prescribed against the correct pre-admitted entry on EPR.
10. Pre infusion monitoring on the Medical Investigation unit

Patients attending the MIU for Infliximab Infusions will be assessed by the admitting nurses and have a biologics pre-infusion checklist completed on EPR.

The biologics pre-infusion checklist includes:

- Ensuring a FBC has been performed and results reviewed within the last 7 days for gastroenterology and dermatology patients and 8 weeks for rheumatology patients
- Ensuring a CRP has been performed and results reviewed within 7 days for gastroenterology patients
- Dermatology patients should also have blood tests performed for Full blood count, Urea and Electrolytes and Liver Function Tests, within the last 7 days, in line with national dermatology guidelines (Smith et al 2009).
- Symptom enquiry for active infection
- Early Warning Score
- Urinalysis
- Weight
- Excluding pregnancy. Urine pregnancy test for females of child bearing potential
- Excluding breast feeding
- Is the patient taking any steroids or immunosuppressant?
- Symptom enquiry for previous infusion reactions

11. When to withhold infusion

- Presentation with signs and symptoms of recurrent infection. This includes respiratory tract infection and skin ulcers
- Worsening of coexisting illnesses such as heart failure or diabetes
- Suspected malignancy
- Persistent hypotension (systolic < 100mg)
- Impending surgery (4 weeks for pending surgery; 8 weeks for high sepsis risk surgery) – restart after wound healing.

12. Administration and Observations

Insert intravenous cannula and flush with 0.9% sodium chloride according Trust policy and ANTT.
According to the summary of product characteristics, Infliximab is licensed for administration over a period of TWO HOURS. However, in carefully selected adult patients who have tolerated at least 3 initial 2-hour infusions of Infliximab (induction phase) and are receiving maintenance therapy, consideration may be given to administering subsequent infusions over a period of not less than 1 hour. If an infusion reaction occurs in association with a shortened infusion, a slower infusion rate may be considered for infusions if treatment is to be continued. Shortened infusions at doses > 6mg/kg have not been studied.

Monitor blood pressure, pulse and temperature prior to starting infusions and every 30 minutes thereafter (On MIU, the EWS early warning score chart is used to record these observations). Patients should be monitored for ONE to TWO hours post infusion.

### Rapid infusion protocol

At the IMID centre in Leeds (Chappel Allerton), an increased rate of infusion has been trialled and subsequently adopted. (Donnellan, Fairclough, Warren, Hamlin (2010)

This is an unlicensed method of administration and patients must be informed of this and consent obtained before the standard rate of infusion is altered.

<table>
<thead>
<tr>
<th>Infusion number</th>
<th>Rate of infusion</th>
<th>Monitoring</th>
</tr>
</thead>
<tbody>
<tr>
<td>Infusion 1 – 4</td>
<td>Infuse over 2hrs</td>
<td>Observe for 2hrs after</td>
</tr>
<tr>
<td>Infusion 5 – 9</td>
<td>Infuse over 1hr</td>
<td>Observe for 1hr after</td>
</tr>
<tr>
<td>Infusion 10+</td>
<td>Infuse over 30min</td>
<td>No observation</td>
</tr>
</tbody>
</table>

If patients do not tolerate the increased rate of infusion, standard administration must be reverted to.

Reactions to this protocol must be reported via AIRS and a clinical note entered on the electronic patient record.

### 13. Infusion reactions

Patients need to be closely observed for infusion reactions during administration of infliximab. Nursing staff should be experienced in the recognition and management of infusion reactions and of anaphylaxis. Resuscitation equipment should be available.

The symptoms and signs of a hypersensitivity reaction can overlap with those of an anaphylactic reaction.

For example:
Mild / moderate reactions

- flushing, rash / urticaria / itching / nausea / fatigue / headache / fever / chills / dizziness / chest discomfort / dyspnoea / hypotension / hypertension / palpitations

Action to be taken

- either slow down rate of infusion or stop and re-start once recovered at a lower rate
- prescribe and administer paracetamol 1g
- prescribe and administer chlorpheniramine (Piriton) 10mg IV over 1 minute
- prescribe and administer hydrocortisone 100mg IV

Severe / anaphylactic reactions (not all features shown below need to be present)

- Airway (swelling, hoarseness, stridor)
- Breathing (cough, wheeze, breathlessness, cyanosis, confusion, reduced SpO2)
- Circulation (pale, clammy, low BP, faintness, drowsiness, collapse)

Action to be taken

- Treat as for anaphylaxis (refer to SRFT anaphylaxis policy – see Appendix 3)

The continuation of the infusion may be undertaken following discussion with the referring Consultant Physician. Infusions may be undertaken at a reduced rate on the same day.

An AIR form should be completed and a clinical note added to the electronic patient record.

Patients who are not being prescribed a concomitant immunosuppressive agent have an increased risk of infusion reaction. After discussion with the Consultant Physician in charge of the patients care it may be necessary for the patient to receive IV Hydrocortisone 100mg and IV Chlorphenamine 10mg prior to the infusion to reduce the risk of infusion reaction.
14. Switching patients from Remicade to Biosimilar Remsima

Patients already on Infliximab Remicade® may be switched to the biosimilar Remsima® if agreed by the patients consultant.

The specialist nurse for that clinical area must speak with the patient and explain what biosimilar infliximab is and provide them with the patient information provided by Napp Pharmaceuticals about Remsima® and switching to a biosimilar. Patients must be told that the first infusions they receive may be longer than the current Remicade® infusions they are receiving.

If a patient has had 10 infusions or more of Infliximab Remicade® and is currently on 30 minute infusions they must have their first infusion of Infliximab Remsima® over 120 minutes and observed for 2 hours. If there are no reactions they must have their second dose of Infliximab Remsima® over 60 minutes and observed for 1 hour. If there are no reactions they may go onto a 30 minute infusion of Infliximab Remsima® from their third dose of Infliximab Remsima®.

If a patient has had between 5 and 9 infusions of Infliximab Remicade®, they must have their first infusion of Infliximab Remsima® over 120 minutes and observed for 2 hours. If there are no reactions they must have their second dose of Infliximab Remsima® over 60 minutes and observed for 1 hour. If there are no reactions they may rejoin the rapid infusion protocol (section 12) at the appropriate point for their next dose of Infliximab Remsima®.

If a patient has had between 1 and 4 infusions of Infliximab Remicade®, they must have their first infusion of Infliximab Remsima® over 120 minutes and observed for 2 hours. If there are no reactions they may rejoin the rapid infusion protocol (section 12) at the appropriate point for their next dose of Infliximab Remsima®.

If a patient has a reaction to an Infliximab Remsima® infusion refer to section 13 of this policy for actions to be taken. The consultant treating the patient must also decide what the decreasing infusion regime is for subsequent doses of Infliximab Remsima®.

Caution must be used for patients who have had reactions to the decreasing Infusion regime with Infliximab Remicade® and where a patient has had previous infusion reactions. In these cases patients may follow the initial dosing schedule of Infliximab again as per section 12 when switching to Infliximab Remsima® ie complete 4 doses at 120 minute infusions, then 5 at 60 minutes then 30 minute infusions.
When considering switching patients the specialist nurse must assess whether there have been previous Infliximab Remicade® infusion related side effects. If there have been this must be discussed with the consultant and the infusion regime decided upon.

The ward clerk on MIU must be informed of any decisions regards infusion times so appropriate timeslots can be booked in for infusions of Infliximab Remsima®.

### 15. Side effects and toxicity

Recognised side effects of treatment include flu like symptoms, headache, transient fever, gastrointestinal upset and skin rashes. Please consult the infliximab data sheet available on line at [www.medicine.org.uk](http://www.medicine.org.uk) for a complete list.

Rarely patients become ANA positive and develop lupus like syndromes whilst receiving treatment.

Adverse reactions should be reported by completing a ‘yellow card’ for CSM monitoring. This can be done electronically at [http://www.mhra.gov.uk/home/idcplg?idcService=SS_GET_PAGE&nodeId=288](http://www.mhra.gov.uk/home/idcplg?idcService=SS_GET_PAGE&nodeId=288)

### 16. Follow up and monitoring by the specialist teams

All patients should be followed up in line with their specialist team’s national clinical body guidelines.

It is good clinical practice for patients to periodically undergo a full clinical history, physical examination and further investigations as required, with particular reference to the known toxicity profile of the agent being considered. This should include a symptom enquiry regarding infection, tuberculosis, demyelination, lupus, heart failure and malignancy.

Patients should be advised to remain concordant with any national cancer screening programmes; eg bowel cancer screening, gynaecological review of patients with history of cervical dysplasia; any past or current malignancy.

In addition to the above, the British Association of Dermatologists guidelines (Smith et al 2009) recommend that all patients should have a clinical examination (including full skin check; assessment for lymphadenopathy, hepatosplenomegaly), cardiovascular and neurological assessment at 3-6 monthly intervals during treatment.
As part of the monitoring process, patients also require Disease Activity Assessments to monitor the effectiveness of infliximab.

**Dermatology**
- Dermatology Life Quality Index (Appendix 4)
- Psoriasis area and severity index (Appendix 5)

Infliximab treatment should be continued beyond 10 weeks only in people whose psoriasis has shown an adequate response to treatment within 10 weeks. (N.I.C.E. 2008) An adequate response is defined by N.I.C.E. as either: a 75% reduction in the PASI score from when treatment started (PASI 75) or a 50% reduction in the PASI score (PASI 50) and a five-point reduction in DLQI from when treatment started.

**Rheumatology**
- DAS 28 (Disease Activity Score 28 – 28 joint swollen and tender joint count) for Rheumatoid Arthritis (Appendix 5)
- PsARC (Psoriatic Arthritis Response Criteria) 76/78 tender and swollen joint count (Appendix 6)
- BASDAI and VAS spinal pain indices for ankylosing spondylitis (Appendix 7)

**Gastroenterology**
- Harvey Bradshaw (Crohn’s disease) (Appendix 8)
- Truelove and Witts (Ulcerative colitis) (Appendix 9)

**Standards**

Agreed National standards must be followed by each directorate when assessing patients for disease severity, eligibility, screening, prescribing and monitoring of patients on biological therapy.


Explanation of terms

ANA antinuclear antibodies,  
ANTT, Aseptic non touch technique  
BAD, British Association of Dermatologists  
BASDI, Bath Ankylosing Spondylitis Disease Activity Index  
BSR, British Society for Rheumatology  
BSA, body surface area  
CCG, Clinical Commissioning Group  
CRP, C Reactive Protein  
DAS, Disease activity score  
DLQI, Dermatology Life Quality Index  
DNA antidouble-stranded DNA antibodies  
DMARDs Disease Modifying Anti Rheumatic Drugs,  
EPR, Electronic Patient Records  
EWS, Early warning score  
FBC, Full blood count  
HACA, human anti-chimeric antibody  
HepBsAg, Hepatitis B surface antigen  
HepBsAb, Hepatitis B surface antibody  
HepB core Ab, Hepatitis B core antibody  
HepCAb, Hepatitis C antibody  
HIV, Human immunodeficiency virus  
IGRA, Interferon gamma release assay  
LFT, Liver function tests including Gamma GT  
MIU, Medical Investigations unit  
NICE, National Institute for Health and Care Excellence  
NYHA, New York Heart Association  
PASI, Psoriasis Area and Severity Index  
PsARC, Psoriatic Arthritis Response Criteria  
TNF-α, Tumour Necrosis factor  
U and E, Urea and Electrolytes  
VAS, Visual Analogue Score

References and Supporting Documents

Coates LC, Tillett W, Chandler D, Helliwell PS, Korendowych E, Kyle S,  
McInnes IB, Oliver S, Ormerod A, Smith C, Symmons D, Waldron N, and  
McHugh NJ, on behalf of BSR Clinical Affairs Committee & Standards,  
and BHPR guideline for the treatment of psoriatic arthritis with biologics.  
Rheumatology 2012.

Deighton C, Hyrich K, DingT, Ledingham J, Lunt M, Luqmani R, Kiely P,  
Bukhari M, Abernethy R, Ostor A, Bosworth A, Gadsby K, McKenna F, Finney  
D, Dixey J, on behalf of BSR Clinical Affairs Committee BSR and BHPR.
Rheumatoid arthritis guidelines on eligibility criteria for the first biological therapy. Rheumatology 2010;49:1197–1199


SRFT policies
Prescribing by Non-Medical Personnel
Trust Medicines Policy
Trust Medicines Formulary
Trust Health Records Policy
Policy for the Recording of Allergies, Hypersensitivities, Intolerances & ADRs. (“The Allergies Policy”)
Anaphylaxis Protocol for Adults and Children
Harmonised Biologics Pathway for Rheumatoid Arthritis
Nursing protocol for the screening and monitoring of dermatology patients prescribed biological therapies for psoriasis in the nurse-led drug monitoring clinic.

Roles and responsibilities

Policy Implementation Plan
Dermatology, Rheumatology, Gastroenterology, Pharmacy and the Medical Investigation Unit have joint overall responsibility for implementing and reviewing this policy.

Monitoring and Review
This protocol will be reviewed on a biannual basis or in the intervening period if new evidence is published that means an update or revision is required before one year has passed.

Audits will be conducted where a need is identified by the Medicines Management Group (MMG), departments of Gastroenterology, Rheumatology, Dermatology and Pharmacy.
## New York Heart Association classification of heart failure symptoms

<table>
<thead>
<tr>
<th>Class</th>
<th>Symptoms</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>No limitations. Ordinary physical activity does not cause fatigue, breathlessness or palpitations (asymptomatic left ventricular dysfunction is included in this category)</td>
</tr>
<tr>
<td>II</td>
<td>Slight limitation of physical activity. Such patients are comfortable at rest. Ordinary physical activity results in fatigue, palpitation, breathlessness or angina pectoris (symptomatically ‘mild’ heart failure)</td>
</tr>
<tr>
<td>III</td>
<td>Marked limitation of physical activity. Although patients are comfortable at rest, less than ordinary physical activity will lead to symptoms (symptomatically ‘moderate’ heart failure)</td>
</tr>
<tr>
<td>IV</td>
<td>Inability to carry on any physical activity without discomfort. Symptoms of congestive cardiac failure are present even at rest. With any physical activity increased discomfort is experienced (symptomatically ‘severe’ heart failure)</td>
</tr>
</tbody>
</table>

Patients with heart failure may have a number of symptoms, the most common being breathlessness, fatigue, exercise intolerance and fluid retention.
Appendix 2 Medical investigation unit revised listing form

MEDICAL INVESTIGATION UNIT REVISED LISTING FORM

All patients must be added to the waiting list within 72 hours of decision to list.

HEALTH ISSUES – Related to this Episode MUST be on EPR

<table>
<thead>
<tr>
<th>Patient Name</th>
<th>Hospital Number</th>
<th>DOB</th>
</tr>
</thead>
<tbody>
<tr>
<td>Decision to List Date</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Consultant</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Listing Clinician</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Secretary &amp; Ext</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Procedure &amp; Treatment</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Procedure 1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Procedure 2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Procedure 3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Procedure 4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Treatment</td>
<td>or</td>
<td>Diagnostic</td>
</tr>
<tr>
<td>Urgent</td>
<td>Non urgent</td>
<td></td>
</tr>
<tr>
<td>To be admitted by date</td>
<td>(Diagnostics 6 weeks, treatment 11 weeks)</td>
<td></td>
</tr>
</tbody>
</table>

INCOMPLETE FORMS WILL BE RETURNED
No Appointments made until Prescription Received by Ward

Admission date (to be completed by MIU)

<table>
<thead>
<tr>
<th>Day:</th>
<th>Date:</th>
<th>Time:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Patient informed:</td>
<td></td>
<td>ECR Approved:</td>
</tr>
</tbody>
</table>

Please email completed forms to Susan.Barker@srft.nhs.uk & sue.botwright@srft.nhs.uk
## Appendix 3 Infliximab Prescription

Salford Royal NHS Foundation Trust Parenteral Prescription – Infliximab

Departments of Gastroenterology/Dermatology/Rheumatology and Pharmacy

<table>
<thead>
<tr>
<th>Inf. no/Date</th>
<th>Drug (Delete brand as appropriate)</th>
<th>Weight*</th>
<th>Dose</th>
<th>Route</th>
<th>Infusion fluid/Period of admin</th>
<th>Prescribed by (Sign and print)</th>
<th>Pharm check</th>
<th>Disp</th>
<th>Issue date</th>
<th>Batch no</th>
<th>Given by</th>
<th>Check by</th>
<th>Time given</th>
<th>Ward</th>
</tr>
</thead>
<tbody>
<tr>
<td>Infusion Date</td>
<td>Infliximab (Remsima / Remicade)</td>
<td>kg</td>
<td>mg</td>
<td>Intra venous</td>
<td>........................ml 0.9% NaCl as per protocol Give over…min</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Infusion Date</td>
<td>Infliximab (Remsima / Remicade)</td>
<td>kg</td>
<td>mg</td>
<td>Intra venous</td>
<td>........................ml 0.9% NaCl as per protocol Give over…min</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Infusion Date</td>
<td>Infliximab (Remsima / Remicade)</td>
<td>kg</td>
<td>mg</td>
<td>Intra venous</td>
<td>........................ml 0.9% NaCl as per protocol Give over…min</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Other medication to be prescribed:

- **Anaphylaxis:**
  - Chlorpheniramine 10mg IV if required
  - Hydrocortisone 100mg IV if required

- **Chlorpheniramine 10mg IV if required**
  - Hydrocortisone 100mg IV if required

- **Hydrocortisone 100mg IV stat prior to administration of Infliximab if patient is NOT on maintenance immunosuppression and/or less than 30mg daily of prednisolone.**
  - Infusion must be administered using a line with an in-line, sterile, non-pyrogenic, low protein-binding filter pore size 1.2 micrometer or less

*Weights and patient allergies are to be recorded on the patient’s EPR.

For the initial 3 infusions (Week 0, 2 and 6) week 0 weight will be used.

Weights recorded during attendance will be used for the next dose. If administered as an inpatient, attach to medicine card.
Appendix 4 Anaphylaxis protocol for Adults and Children

Anaphylaxis algorithm. Begin treatment for anaphylaxis, following the algorithm shown below as per SRFT policy.

**Anaphylaxis algorithm**

1. **Anaphylactic reaction?**
2. **Airway, Breathing, Circulation, Disability, Exposure**
3. **Diagnosis - look for:**
   - Acute onset of illness
   - Life-threatening Airway and/or Breathing and/or Circulation problems
   - And usually skin changes
4. **Call for help**
   - Lie patient flat
   - Raise patient's legs
5. **Adrenaline**
   - Establish airway
   - High flow oxygen
   - IV fluid challenge
   - Chlorphenamine
   - Hydrocortisone
   - Monitor:
     - Pulse oximetry
     - ECG
     - Blood pressure

1. **Life-threatening problems:**
   - Airway: swelling, hoarseness, stridor
   - Breathing: rapid breathing, wheeze, fatigue, cyanosis, SpO2 < 92%, confusion
   - Circulation: pale, clammy, low blood pressure, faintness, drowsy/coma

2. **Adrenaline (give IM unless experienced with IV adrenaline)**
   - IM doses of 1:1000 adrenaline (repeat after 5 min if no better)
     - Adult: 500 micrograms IM (0.5 mL)
     - Child more than 12 years: 500 micrograms IM (0.5 mL)
     - Child 6-12 years: 300 micrograms IM (0.3 mL)
     - Child less than 6 years: 150 micrograms IM (0.15 mL)
   - Adrenaline IV to be given **only by experienced specialists**
   - Titrated: Adults 50 micrograms, Children 1 microgram/kg

3. **IV fluid challenge**
   - Adult - 500 - 1000 mL
   - Child - crystalloid 20 mL/kg
   - Stop IV colloid if this might be the cause of anaphylaxis

4. **Chlorphenamine**
   - (IM or slow IV)
   - Adult or child more than 12 years: 10 mg
   - Child 6 - 12 years: 5 mg
   - Child 6 months to 6 years: 2.5 mg
   - Child less than 6 months: 250 micrograms/kg

5. **Hydrocortisone**
   - (IM or slow IV)
   - Adult: 200 mg
   - Child: 100 mg
   - Child: 50 mg
   - Child: 25 mg

March 2006

---

**Infliximab infusion for patients with Crohns Disease, Ulcerative Colitis, Rheumatoid Arthritis, Ankylosing Spondylitis, Psoriatic Arthritis and Psoriasis**

**Current Version is held on the Intranet**

Check with Intranet that this printed copy is the latest issue
# Appendix 5 Dermatology Life Quality Index

## DERMATOLOGY LIFE QUALITY INDEX

**Hospital No:**

**Date:**

**Score:**

**Name:**

**Diagnosis:**

**Address:**

The aim of this questionnaire is to measure how much your skin problem has affected your life **OVER THE LAST WEEK**. Please tick one box for each question.

<table>
<thead>
<tr>
<th>Question</th>
<th>Response Options</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Over the last week, how <strong>itchy</strong>, <strong>sore</strong>, <strong>painful</strong> or <strong>stinging</strong> has your skin been?</td>
<td>Very much, A lot, A little, Not at all</td>
</tr>
<tr>
<td>2. Over the last week, how <strong>embarrassed</strong> or <strong>self conscious</strong> have you been because of your skin?</td>
<td>Very much, A lot, A little, Not at all</td>
</tr>
<tr>
<td>3. Over the last week, how much has your skin interfered with you going <strong>shopping</strong> or looking after your <strong>home</strong> or <strong>garden</strong>?</td>
<td>Very much, A lot, A little, Not at all</td>
</tr>
<tr>
<td>4. Over the last week, how much has your skin influenced the <strong>clothes</strong> you wear?</td>
<td>Very much, A lot, A little, Not at all</td>
</tr>
<tr>
<td>5. Over the last week, how much has your skin affected any <strong>social</strong> or <strong>leisure</strong> activities?</td>
<td>Very much, A lot, A little, Not at all</td>
</tr>
<tr>
<td>6. Over the last week, how much has your skin made it difficult for you to do any <strong>sport</strong>?</td>
<td>Very much, A lot, A little, Not at all</td>
</tr>
<tr>
<td>7. Over the last week, has your skin prevented you from <strong>working</strong> or <strong>studying</strong>?</td>
<td>yes, no</td>
</tr>
<tr>
<td>If &quot;No&quot;, over the last week how much has your skin been a problem at <strong>work</strong> or <strong>studying</strong>?</td>
<td>A lot, A little, Not at all</td>
</tr>
<tr>
<td>8. Over the last week, how much has your <strong>skin</strong> created problems with your <strong>partner</strong> or any of your <strong>close friends</strong> or <strong>relatives</strong>?</td>
<td>Very much, A lot, A little, Not at all</td>
</tr>
<tr>
<td>9. Over the last week, how much has your <strong>skin</strong> caused any <strong>sexual</strong> difficulties?</td>
<td>Very much, A lot, A little, Not at all</td>
</tr>
<tr>
<td>10. Over the last week, how much of a problem has the <strong>treatment</strong> for your skin been, for example by making your home messy, or by taking up time?</td>
<td>Very much, A lot, A little, Not at all</td>
</tr>
</tbody>
</table>

Please check you have answered EVERY question. Thank you.
### Appendix 6 Psoriasis Area and Severity Index (PASI)

**PSORIASIS SEVERITY ASSESSMENT**

<table>
<thead>
<tr>
<th>Score</th>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
</tr>
</thead>
<tbody>
<tr>
<td>Erythema</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Infiltration</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Desquamation</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Area %</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- None
- slight
- moderate
- severe
- Very severe

<table>
<thead>
<tr>
<th>Area %</th>
<th>0</th>
<th>&lt;10</th>
<th>10-30</th>
<th>30-50</th>
<th>50-70</th>
<th>70-90</th>
<th>90-100</th>
</tr>
</thead>
<tbody>
<tr>
<td>Please score:</td>
<td>HEAD (H)</td>
<td>TRUNK (T)</td>
<td>UPPER LIMBS (UL)</td>
<td>LOWER LIMBS (LL)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Erythema (I)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Infiltration (I)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Desquamation (D)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sum = E+I+D</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Area</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sum x Area</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Please score:

- Head (H)
- Trunk (T)
- Upper Limbs (UL)
- Lower Limbs (LL)

Calculated formula:

\[
PASI = \text{SUM} \times \begin{array}{c}
X 0.1 \\
X 0.3 = \\
X 0.2 = \\
X 0.4 = 
\end{array}
\]

\[
\text{Erythema} + \text{Infiltration} + \text{Desquamation}
\]

**Please score:**

**Erythema (I)**

**Infiltration (I)**

**Desquamation (D)**

**Area %**

**Sum = E+I+D**

**Area**

**Sum x Area**

\[
PASI = \text{SUM} \times \begin{array}{c}
X 0.1 \\
X 0.3 = \\
X 0.2 = \\
X 0.4 = 
\end{array}
\]

**PASI = SUM**
Appendix 7 Rheumatoid Arthritis Disease Activity Score (DAS28)
## Appendix 8 Psoriasis Arthritis Response Criteria

### Psoriatic Arthritis Response Criteria (PsARC)

The Psoriatic Arthritis response criteria (PsARC), is the only measure developed specifically for people with Psoriatic Arthritis. The PsARC comprises the four measures as listed.

<table>
<thead>
<tr>
<th>Score/Result</th>
<th>Baseline score (A)</th>
<th>Current visit score (B)</th>
<th>Baseline – current score (C)</th>
<th>% Improvement = (C + A x 100)</th>
<th>Total Improvement</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>EXAMPLE:</strong></td>
<td>10</td>
<td>5</td>
<td>10 – 5 = 5</td>
<td>5 / (10 x 100)</td>
<td>50%</td>
</tr>
<tr>
<td>Tender Joint</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Swollen Joint</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Patient global assessment</td>
<td></td>
<td></td>
<td>Absolute improvement in Likert score</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Physician global assessment</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The patient has fulfilled the Psoriatic Arthritis Criteria if they have an improvement in 2 out of the 4 of the response criteria (one must be a joint score).

No worsening of any of the criteria must occur. Improvement is defined as >30% improvement in the joint scores or improvement by at least 1 point on the Likert scale.
Appendix 9 Bath Ankylosing Spondylitis Disease Activity Index

Bath Ankylosing Spondylitis Disease Activity Index* (BASDAI)

Date_________________ Patient Name_________________

Please place a mark on each line below to indicate your answer to each question, relating to the past week:

1. How would you describe the overall level of fatigue/tiredness you have experienced?
   NONE ________ 10 VERY SEVERE

2. How would you describe the overall level of AS neck, back or hip pain you have had?
   NONE ________ 10 VERY SEVERE

3. How would you describe the overall level of pain/ swelling in joints other than the neck, back or hips you have had?
   NONE ________ 10 VERY SEVERE

4. How would you describe the overall level of discomfort you have had from any areas tender to touch or pressure?
   NONE ________ 10 VERY SEVERE

5. How would you describe the overall level of morning stiffness you have had from the time you woke up?
   NONE ________ 10 VERY SEVERE

6. How long does your morning stiffness last from the time you wake up?
   ____________________________________________
   0hrs 1/4 hr 1hr 1 1/2 hrs 2 or more hours

Please add up the scores (take the mean of stiffness questions 5 & 6) to give a score out of 50. Then divide by 5 to give a total BASDAI out of 10.
Appendix 10 Ankylosing Spondylitis Disease Activity Sheet

Ankylosing Spondylitis Disease Activity Sheet

Date: 

BASDI Score:

EIR

CRP

Spinal Pain VAS: During the past week, can you describe your overall level of spinal pain? Please indicate on the scale below.

0

100

None

Very Severe

Has the patient failed to respond to 2 or more NSAIDS? YES / NO

You do not need to return this sheet: it is to help you complete the questionnaire.
### Appendix 11 Truelove and Witts

(To be completed by Physician)

<table>
<thead>
<tr>
<th>Activity</th>
<th>Mild</th>
<th>Moderate</th>
<th>Severe</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>No Bloody Stools per day</strong></td>
<td>&lt;4</td>
<td>4-6</td>
<td>&gt;6</td>
</tr>
<tr>
<td><strong>Temp</strong></td>
<td>Afebrile</td>
<td>Intermediate</td>
<td>&gt;37.8</td>
</tr>
<tr>
<td><strong>Heart Rate</strong></td>
<td>Normal</td>
<td>Intermediate</td>
<td>&gt;90</td>
</tr>
<tr>
<td><strong>Haemoglobin (g/dl)</strong></td>
<td>&gt;11</td>
<td>10.5-11</td>
<td>&lt;10.5</td>
</tr>
<tr>
<td><strong>ESR (mm/h)</strong></td>
<td>&lt;20</td>
<td>20-30</td>
<td>&gt;30</td>
</tr>
</tbody>
</table>
## Appendix 12 Harry Bradshaw Score

*(To be completed by Physician)*

**Harvey Bradshaw Score**

<table>
<thead>
<tr>
<th>Symptom</th>
<th>Severity</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>General wellbeing</td>
<td>Well</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>Slightly poor</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Poor</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>Very poor</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Extremely poor</td>
<td>4</td>
</tr>
<tr>
<td>Abdominal pain</td>
<td>None</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>Mild</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Moderate</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>Severe</td>
<td>3</td>
</tr>
<tr>
<td>Diarrhoea</td>
<td></td>
<td>1 for each liquid stool per day</td>
</tr>
<tr>
<td>Abdominal mass</td>
<td>None</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>Dubious</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Definite</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>Definite with tenderness</td>
<td>3</td>
</tr>
<tr>
<td>Complications</td>
<td>Arthralgia, uveitis, erythema nodosum, pyoderma gangrenosum, aphthous ulcer, anal fissure, new fistula or abscess</td>
<td>1 for each item</td>
</tr>
</tbody>
</table>

CDAI, Crohn’s disease activity index.

<4, remission; 5-9, moderate; ≥9, severe.

Source: *J Gastroenteral Hepatol* © 2006 Blackwell Publishing