

# Non-Hodgkin's lymphoma

## NICE guideline: short version

### Draft for consultation, January 2016

**This guideline covers** the diagnosis and management of non-Hodgkin's lymphoma in adults and young people (16 years and older). There are a number of different subtypes of non-Hodgkin's lymphoma, and diagnosis can be complex. Improvements in understanding of the biology of non-Hodgkin's lymphoma have led to more specific and targeted treatments. The subtypes covered in this guideline are diffuse large B-cell lymphoma, mantle cell lymphoma, follicular lymphoma, MALT lymphoma, Burkitt lymphoma and peripheral T-cell lymphoma. Treatments include radiotherapy, immunochemotherapy and stem cell transplantation.

#### Who is it for?

- Healthcare professionals who diagnose and treat people with non-Hodgkin's lymphoma.
- People with non-Hodgkin's lymphoma, their families and carers.

This version of the guideline contains the draft recommendations, context and recommendations for research. Information about how the guideline was developed is on the [guideline's page](#) on the NICE website. This includes the guideline committee's discussion and the evidence reviews (in the [full guideline](#)), the scope, and details of the committee and any declarations of interest.

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## DRAFT FOR CONSULTATION

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## 1 Recommendations

People have the right to be involved in discussions and make informed decisions about their care, as described in [your care](#).

[Making decisions using NICE guidelines](#) explains how we use words to show the strength (or certainty) of our recommendations, and has information about prescribing medicines (including off-label use), professional guidelines, standards and laws (including on consent and mental capacity), and safeguarding.

### 2 1.1 *Diagnosis*

#### 3 Type of biopsy

4 1.1.1 Consider an excision biopsy as the first diagnostic procedure for people  
5 with suspected non-Hodgkin's lymphoma at first presentation.

6 1.1.2 In people with suspected non-Hodgkin's lymphoma for whom the risk of a  
7 surgical procedure outweighs the potential benefits of an excision biopsy,  
8 consider a needle core biopsy procedure. Take the maximum number of  
9 cores of the largest possible calibre.

10 1.1.3 For people with suspected non-Hodgkin's lymphoma in whom a diagnosis  
11 is not possible after a needle core biopsy procedure, offer an excision  
12 biopsy (if surgically feasible) in preference to a second needle core biopsy  
13 procedure.

14 1.1.4 Pathology departments should ensure that tissue is conserved when  
15 handling needle core biopsies.

#### 16 Diagnosing B-cell lymphomas: gene testing strategies

17 1.1.5 Consider using FISH (fluorescence in situ hybridisation) to identify a *MYC*  
18 rearrangement in all people newly presenting with histologically high-  
19 grade B-cell lymphoma.

- 1 1.1.6 If a *MYC* rearrangement is found, use FISH to identify the immunoglobulin  
2 partner and the presence of *BCL2* and *BCL6* rearrangements.

3 **Stratifying high-grade B-cell lymphomas using laboratory techniques**

- 4 1.1.7 Do not use immunohistochemistry to assess the prognostic value  
5 associated with cell of origin in people with diffuse large B-cell lymphoma.

- 6 1.1.8 Interpret FISH results (*MYC*, *BCL2* and *BCL6* rearrangements) in the  
7 context of other prognostic factors (particularly the person's age and  
8 International Prognostic Index [IPI]).

- 9 1.1.9 Explain FISH results and their potential prognostic value to people with B-  
10 cell lymphoma.

11 **1.2 Staging using FDG-PET-CT (fluorodeoxyglucose-positron  
12 emission topography-CT)**

13 **Confirming staging**

- 14 1.2.1 Offer FDG-PET-CT imaging to confirm staging for people diagnosed with:

- 15 • stage I diffuse large B-cell lymphoma by clinical and CT criteria  
16 • stage I or localised stage II follicular lymphoma if disease is thought to  
17 be encompassable within a radiotherapy field  
18 • stage I or II Burkitt lymphoma with other low-risk features.

- 19 1.2.2 Do not routinely offer FDG-PET-CT imaging to confirm staging for people  
20 diagnosed with:

- 21 • diffuse large B-cell lymphoma that is stage II or above  
22 • follicular lymphoma that is non-localised stage II or above  
23 • mantle cell lymphoma  
24 • MALT lymphoma (extranodal marginal zone lymphoma of mucosa-  
25 associated lymphoid tissue)  
26 • Burkitt lymphoma with high-risk features, or stage III or IV.

1 **Assessing response to treatment for diffuse large B-cell lymphoma**

2 1.2.3 Do not routinely offer FDG-PET-CT imaging for interim assessment during  
3 treatment for diffuse large B-cell lymphoma.

4 **End-of-treatment assessment**

5 1.2.4 Offer FDG-PET-CT imaging to assess response at completion of planned  
6 treatment for people with:

- 7
- diffuse large B-cell lymphoma
  - Burkitt lymphoma.
- 8

9 1.2.5 Do not routinely offer FDG-PET-CT imaging to assess response at  
10 completion of planned treatment for people with:

- 11
- follicular lymphoma
  - mantle cell lymphoma
  - MALT lymphoma.
- 12  
13

14 1.2.6 Consider FDG-PET-CT imaging to assess response to treatment before  
15 autologous stem cell transplantation for people with high-grade non-  
16 Hodgkin's lymphoma.

17 **1.3 *Management of follicular lymphoma***

18 **First-line treatment for early-stage follicular lymphoma**

19 1.3.1 Offer involved field radiotherapy as first-line treatment to people with  
20 localised stage IIA follicular lymphoma.

21 1.3.2 Consider 'watch and wait' (observation without therapy) as first-line  
22 treatment for people with stage IIA follicular lymphoma who are  
23 asymptomatic and for whom treatment with a single radiotherapy volume  
24 is not suitable.

25 1.3.3 Offer the same treatment as for advanced-stage (stages III and IV)  
26 disease to people with stage IIA follicular lymphoma who are symptomatic  
27 and for whom radiotherapy is not suitable.

1 **Consolidation therapy**

2 1.3.4 Offer consolidation with autologous stem cell transplantation for people  
3 with follicular lymphoma in second or subsequent remission (complete or  
4 partial) who have not already had a transplant and who are fit enough for  
5 transplantation.

6 1.3.5 Consider consolidation with allogeneic stem cell transplantation for people  
7 with follicular lymphoma in second or subsequent remission (complete or  
8 partial):

- 9
- 10 • who are fit enough for transplantation **and**
  - 11 • for whom a suitable donor can be found **and**
  - 12 • when autologous stem cell transplantation has not resulted in remission  
13 or is inappropriate (for example, because stem cell harvesting is not  
possible).

14 **Treating advanced-stage asymptomatic follicular lymphoma**

15 1.3.6 Offer rituximab induction therapy<sup>1</sup> to people with advanced-stage (stages  
16 III and IV) follicular lymphoma who are asymptomatic.

17 **Treating advanced-stage symptomatic follicular lymphoma**

18 1.3.7 Rituximab, in combination with:

- 19
- 20 • cyclophosphamide, vincristine and prednisolone (CVP)
  - 21 • cyclophosphamide, doxorubicin, vincristine and prednisolone (CHOP)
  - 22 • mitoxantrone, chlorambucil and prednisolone (MCP)
  - 23 • cyclophosphamide, doxorubicin, etoposide, prednisolone and  
24 interferon- $\alpha$  (CHVPi) or
  - 25 • chlorambucil

26 is recommended as an option for the treatment of symptomatic stage III  
and IV follicular lymphoma in previously untreated people. [This

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<sup>1</sup> At the time of consultation (January 2016) rituximab did not have a UK marketing authorisation for this indication. The prescriber should follow relevant professional guidance, taking full responsibility for the decision. Informed consent should be obtained and documented. See the General Medical Council's [Prescribing guidance: prescribing unlicensed medicines](#) for further information. The evidence reviewed for the guideline supports the standard dosage of 4 doses of 375 mg/m<sup>2</sup> at weekly intervals.

1 recommendation is from [Rituximab for the first-line treatment of stage III-](#)  
2 [IV follicular lymphoma](#) (NICE technology appraisal guidance 243).]

### 3 **Treating advanced-stage relapsed or refractory follicular lymphoma**

4 The recommendations in this section are from [Rituximab for the treatment of](#)  
5 [relapsed or refractory stage III or IV follicular non-Hodgkin's lymphoma](#) (NICE  
6 technology appraisal guidance 137).

7 1.3.8 Rituximab, within its marketing authorisation, in combination with  
8 chemotherapy, is recommended as an option for the induction of  
9 remission in people with relapsed stage III or IV follicular non-Hodgkin's  
10 lymphoma.

11 1.3.9 Rituximab monotherapy as maintenance therapy, within its marketing  
12 authorisation, is recommended as an option for the treatment of people  
13 with relapsed stage III or IV follicular non-Hodgkin's lymphoma in  
14 remission induced with chemotherapy with or without rituximab.

15 1.3.10 Rituximab monotherapy, within its marketing authorisation, is  
16 recommended as an option for the treatment of people with relapsed or  
17 refractory stage III or IV follicular non-Hodgkin's lymphoma, when all  
18 alternative treatment options have been exhausted (that is, if there is  
19 resistance to or intolerance of chemotherapy).

### 20 **Treating transformed follicular lymphoma**

21 1.3.11 Consider consolidation with autologous stem cell transplantation for  
22 people with transformation of previously diagnosed follicular lymphoma  
23 that has responded to treatment and who are fit enough for  
24 transplantation.

25 1.3.12 Consider consolidation with autologous or allogeneic stem cell  
26 transplantation for people with transformation of follicular lymphoma who  
27 need more than 1 line of treatment for a response and who are fit enough  
28 for transplantation.

1 1.3.13 Do not offer consolidation with high-dose therapy and autologous or  
2 allogeneic stem cell transplantation to people presenting with concurrent  
3 diagnoses of follicular lymphoma and diffuse large B-cell lymphoma that  
4 have responded to first-line treatment.

## 5 **1.4 Management of MALT lymphoma**

### 6 **First-line treatment**

#### 7 **Gastric MALT lymphoma: localised disease**

8 1.4.1 Offer 1 or more lines of *Helicobacter pylori* eradication therapy, without  
9 any concurrent therapy, to people with *H. pylori*-positive gastric MALT  
10 lymphoma.

11 1.4.2 Consider *H. pylori* eradication therapy for people with *H. pylori*-negative  
12 gastric MALT lymphoma.

13 1.4.3 Consider 'watch and wait' (observation without therapy) for people with  
14 gastric MALT lymphoma that responds clinically and endoscopically to *H.*  
15 *pylori* eradication therapy but who have residual disease shown by  
16 surveillance biopsies of the stomach, unless high-risk features are  
17 present.

18 1.4.4 For people with residual MALT lymphoma after *H. pylori* eradication  
19 therapy who are at high risk of progression [*H. pylori*-negative at initial  
20 presentation or t(11:18) translocation], consider a choice of the following,  
21 in discussion with the person:

- 22 • chemotherapy (for example, chlorambucil or CVP) in combination with  
23 rituximab **or**
- 24 • gastric radiotherapy.

25 1.4.5 For people with progressive gastric MALT lymphoma, offer a choice of:

- 26 • chemotherapy (for example, chlorambucil or CVP) in combination with  
27 rituximab **or**
- 28 • gastric radiotherapy.



1 **Gastric MALT lymphoma: disseminated disease**

2 1.4.6 Offer *H. pylori* eradication therapy to people with disseminated *H. pylori*-  
3 positive gastric MALT lymphoma, as described in the NICE guideline on  
4 [gastro-oesophageal reflux disease and dyspepsia in adults](#).

5 1.4.7 Offer chemotherapy (for example, chlorambucil or CVP) in combination  
6 with rituximab to people with disseminated gastric MALT lymphoma who  
7 need treatment – for example, people who are symptomatic or with  
8 threatened vital organ function.

9 1.4.8 Consider ‘watch and wait’ (observation without therapy) for people with  
10 disseminated gastric MALT lymphoma who are asymptomatic and do not  
11 have threatened vital organ function.

12 **Non-gastric MALT lymphoma**

13 1.4.9 For people with non-gastric MALT lymphoma, take into account the  
14 following before recommending any treatment:

- 15 • site of involvement and potential for organ dysfunction
- 16 • whether it is localised or disseminated
- 17 • the morbidity associated with any treatment proposed
- 18 • the person's overall fitness.

19 1.4.10 Offer chemotherapy (for example, chlorambucil or CVP) in combination  
20 with rituximab to people with non-gastric MALT lymphoma for whom  
21 radiotherapy is not suitable or who have disseminated disease and need  
22 treatment.

23 1.4.11 Consider radiotherapy for people with localised disease sites of non-  
24 gastric MALT lymphoma, irrespective of stage.

25 1.4.12 Consider ‘watch and wait’ (observation without therapy) for people with  
26 clinically non-progressive localised non-gastric MALT lymphoma that is  
27 unlikely to result in vital organ dysfunction, who are asymptomatic and for  
28 whom radiotherapy is not suitable.

1 **1.5**      ***Management of mantle cell lymphoma***

2 **First-line treatment**

3 1.5.1      Offer chemotherapy in combination with rituximab as first-line treatment  
4 for people with advanced-stage mantle cell lymphoma who are  
5 symptomatic. Take the person's fitness into account when deciding on the  
6 intensity of chemotherapy.

7 1.5.2      Consider cytarabine-containing immunochemotherapy for people with  
8 advanced-stage mantle cell lymphoma who are fit enough to tolerate an  
9 intensive approach.

10 1.5.3      Consider radiotherapy for people with localised stage I or II mantle cell  
11 lymphoma.

12 1.5.4      Consider 'watch and wait' (observation without therapy) until disease  
13 progression for people with clinically non-progressive mantle cell  
14 lymphoma who are asymptomatic and for whom radiotherapy is not  
15 suitable.

16 1.5.5      Bortezomib is recommended, within its marketing authorisation, as an  
17 option for previously untreated mantle cell lymphoma in adults for whom  
18 haematopoietic stem cell transplantation is unsuitable. [This  
19 recommendation is from [Bortezomib for previously untreated mantle cell](#)  
20 [lymphoma](#) (NICE technology appraisal guidance 370).]

21 **Consolidation therapy**

22 1.5.6      Consider consolidation with autologous stem cell transplantation for  
23 people with chemosensitive mantle cell lymphoma (that is, there has been  
24 at least a partial response to induction chemotherapy) who are fit enough  
25 for transplantation.

1 **Maintenance strategies**

2 1.5.7 Consider maintenance rituximab<sup>2</sup>, every 2 months until disease  
3 progression, for people with newly diagnosed mantle cell lymphoma who  
4 are not fit enough for high-dose chemotherapy and where there has been  
5 a response to R-CHOP-based immunochemotherapy.

6 1.5.8 Consider maintenance rituximab<sup>3</sup>, every 2 months for 3 years, for people  
7 with newly diagnosed mantle cell lymphoma who are in remission after  
8 cytarabine-based induction and high-dose chemotherapy.

9 **1.6 Management of diffuse large B-cell lymphoma**

10 **Radiotherapy in first-line treatment**

11 1.6.1 Consider consolidation radiotherapy delivering 30 Gy to sites involved  
12 with bulk disease at diagnosis for people with advanced-stage diffuse  
13 large B-cell lymphoma that has responded to first-line  
14 immunochemotherapy. For each person, balance the possible late effects  
15 of radiotherapy with the possible increased need for salvage therapy if it is  
16 omitted, and discuss the options with them.

17 **First-line treatment of CD20-positive diffuse large B-cell lymphoma**

18 The recommendations in this section are from [Rituximab for aggressive non-](#)  
19 [Hodgkin's lymphoma](#) (NICE technology appraisal guidance 65).

20 1.6.2 Rituximab is recommended for use in combination with a regimen of  
21 cyclophosphamide, doxorubicin, vincristine and prednisolone (CHOP) for  
22 the first-line treatment of people with CD20-positive diffuse large-B-cell

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<sup>2</sup> At the time of consultation (January 2016) rituximab did not have a UK marketing authorisation for this indication. The prescriber should follow relevant professional guidance, taking full responsibility for the decision. Informed consent should be obtained and documented. See the General Medical Council's [Prescribing guidance: prescribing unlicensed medicines](#) for further information. The evidence reviewed for the guideline supports a dosage of 375 mg/m<sup>2</sup> every 2 months until disease progression.

<sup>3</sup> At the time of consultation (January 2016) rituximab did not have a UK marketing authorisation for this indication. The prescriber should follow relevant professional guidance, taking full responsibility for the decision. Informed consent should be obtained and documented. See the General Medical Council's [Prescribing guidance: prescribing unlicensed medicines](#) for further information. The evidence reviewed for the guideline supports a dosage of 375 mg/m<sup>2</sup> every 2 months for 3 years.

1 lymphoma at clinical stage II, III or IV. Rituximab is not recommended for  
2 use when CHOP is contraindicated.

3 1.6.3 The clinical and cost effectiveness of rituximab in patients with localised  
4 disease (Stage I) has not been established. It is recommended that  
5 rituximab be used in these circumstances only as part of ongoing or new  
6 clinical studies.

7 1.6.4 A specialist in the treatment of lymphomas should supervise the use of  
8 rituximab in combination with CHOP for the treatment of diffuse large-B-  
9 cell lymphoma.

## 10 **Central nervous system prophylaxis**

11 1.6.5 Explain to people with diffuse large B-cell lymphoma that they have an  
12 increased risk of central nervous system lymphoma if the testis, breast,  
13 adrenal gland or kidney is affected.

14 1.6.6 Explain to people with diffuse large B-cell lymphoma that they may have  
15 an increased risk of central nervous system lymphoma if they have 2 or  
16 more of the following, and that the level of risk increases with the number  
17 of factors involved:

- 18 • elevated lactate dehydrogenase (LDH)
- 19 • age over 60 years
- 20 • poor performance status (ECOG score of 2 or more)
- 21 • more than one extranodal site involved
- 22 • stage III or IV disease.

23 1.6.7 Offer central nervous system-directed prophylactic therapy to people with  
24 diffuse large B-cell lymphoma:

- 25 • that involves the testis, breast, adrenal gland or kidney **or**
- 26 • who have 4 or 5 factors associated with increased risk of central  
27 nervous system relapse (see recommendation 1.6.6).

1 1.6.8 Consider central nervous system-directed prophylactic therapy for people  
2 with diffuse large B-cell lymphoma who have 2 or 3 factors that are  
3 associated with increased risk of central nervous system relapse (see  
4 recommendation 1.6.6).

## 5 **Salvage therapy**

6 1.6.9 Offer salvage therapy with multi-agent immunochemotherapy to people  
7 with relapsed or refractory diffuse large B-cell lymphoma who are fit  
8 enough to tolerate intensive therapy:

- 9 • explain that this is primarily to obtain sufficient response to allow  
10 consolidation with autologous or allogeneic stem cell transplantation,  
11 but is also beneficial even if not followed by transplantation
- 12 • consider R-GDP immunochemotherapy, which is as effective as other  
13 commonly used salvage regimens and less toxic.

14 1.6.10 Offer consolidation with autologous stem cell transplantation to people  
15 with chemosensitive diffuse large B-cell lymphoma (that is, there has been  
16 at least a partial response to chemotherapy) who are fit enough for  
17 transplantation.

18 1.6.11 Consider consolidation with allogeneic stem cell transplantation for people  
19 with chemosensitive diffuse large B-cell lymphoma (that is, there has been  
20 at least a partial response to chemotherapy):

- 21 • that relapses after autologous stem cell transplantation **or**
- 22 • in whom stem cell harvesting is not possible.

## 23 **1.7 Management of Burkitt lymphoma**

### 24 **First-line treatment**

25 1.7.1 Offer intensive immunochemotherapy to people with Burkitt lymphoma  
26 who are fit enough to tolerate it. Consider using one of the following:

- 27 • R-BFM
- 28 • R-CODOX-M

- 1           • R-HyperCVAD (HDMTX)
- 2           • R-LMB.

3   1.7.2     For people with low-risk Burkitt lymphoma, consider using the less  
4           intensive DA-EPOCH-R regimen, alone or supplemented with intravenous  
5           and/or intrathecal methotrexate.

6   1.7.3     Offer less intensive immunochemotherapy to people with Burkitt  
7           lymphoma who are not fit enough to tolerate intensive chemotherapy  
8           Consider using one of the following, alone or supplemented with  
9           intravenous and/or intrathecal methotrexate:

- 10           • R-CHOP
- 11           • R-CHEOP
- 12           • DA-EPOCH-R.

## 13   **1.8        *Management of peripheral T-cell lymphoma***

### 14   **First-line treatment**

15   1.8.1     Consider CHOP chemotherapy as first-line treatment for people with  
16           peripheral T-cell lymphoma.

### 17   **Consolidation therapy**

18   1.8.2     Consider consolidation with autologous stem cell transplantation for  
19           people with chemosensitive peripheral T-cell lymphoma (that is, there has  
20           been at least a partial response to first-line chemotherapy) who are fit  
21           enough for transplantation.

## 22   **1.9        *Information and support***

23   1.9.1     To help people with non-Hodgkin's lymphoma (and their family members  
24           or carers as appropriate) to make decisions about care, follow the  
25           recommendations in the NICE guideline on [patient experience in adult](#)  
26           [NHS services](#) and the recommendations about patient-centred care in the  
27           NICE guideline on [improving outcomes in haematological cancers](#). Pay  
28           particular attention to the following areas:

- 1           • establishing the best way of communicating with the person
- 2           • timing and format of information
- 3           • information about treatment, including benefits, short-term risks and
- 4           late effects
- 5           • financial support and benefit advice
- 6           • fertility issues
- 7           • sexual function
- 8           • support groups
- 9           • access to wellbeing services.
- 10   1.9.2   Give people with non-Hodgkin's lymphoma (and their family members or
- 11           carers as appropriate) detailed information about the nature and purpose
- 12           of diagnostic and staging tests, including:
- 13           • bone marrow biopsies
- 14           • central line insertion
- 15           • core and excision biopsies
- 16           • CT and PET-CT scans
- 17           • lumbar punctures.
- 18   1.9.3   If 'watch and wait' (observation without therapy) is suggested for a person
- 19           with non-Hodgkin's lymphoma:
- 20           • explain to them (and their family members or carers as appropriate)
- 21           about what this involves and why it is being advised
- 22           • address any increased anxiety that results from this approach.
- 23   1.9.4   Explain (at an appropriate time) to people with low-grade non-Hodgkin's
- 24           lymphoma (and their family members or carers as appropriate) about the
- 25           possibility of transformation to high-grade lymphoma.
- 26   1.9.5   Ensure that people with non-Hodgkin's lymphoma have:
- 27           • a named key worker at diagnosis and during treatment **and**
- 28           • contact details for the specialist team after treatment.

1 1.9.6 Discuss exercise and lifestyle advice with people with non-Hodgkin's  
2 lymphoma from diagnosis onwards.

### 3 **1.10 Follow-up for people with diffuse large B-cell lymphoma**

4 1.10.1 For people in complete remission after first-line treatment with curative  
5 intent for diffuse large B-cell lymphoma:

- 6 • consider regular clinical assessment for the first 3 years after  
7 completing treatment
- 8 • offer urgent appointments to people who experience a recurrence of  
9 lymphoma symptoms or new symptoms that suggest disease relapse
- 10 • do not offer LDH surveillance for detecting relapse
- 11 • do not offer routine surveillance imaging (including chest X-ray, CT and  
12 PET-CT) for detecting relapse in people who are asymptomatic
- 13 • consider stopping regular clinical assessment aimed at detecting  
14 relapse for people in ongoing complete remission 3 years after  
15 completing treatment.

### 16 **1.11 Survivorship**

17 1.11.1 Provide end-of-treatment summaries for people with non-Hodgkin's  
18 lymphoma (and their GPs). Discuss these with the person, highlighting  
19 personal and general risk factors, including late effects related to their  
20 lymphoma type and/or its treatment.

21 1.11.2 Offer education to people with non-Hodgkin's lymphoma when they  
22 complete treatment about how to recognise possible relapse and late  
23 effects of treatment.

24 1.11.3 At 3 years after a person with non-Hodgkin's lymphoma completes a  
25 course of treatment, consider switching surveillance of late effects of  
26 treatment to nurse-led or GP-led services.

## 27 **Context**

28 Non-Hodgkin's lymphoma is the sixth most common cancer in the UK. There are  
29 many different subtypes of the disease, with markedly different clinical courses and



1 requirements for therapy. Diagnosing non-Hodgkin's lymphoma and the precise  
2 subtype is challenging, and optimising the diagnostic process is central to improved  
3 management. Significant improvements in our understanding of the biology of non-  
4 Hodgkin's lymphoma have contributed to improved diagnosis and also allowed for  
5 more targeted therapies.

6 The treatment of non-Hodgkin's lymphoma has been a beacon for the development  
7 of specific treatment strategies (now applied to many other forms of cancer), but  
8 paradoxically there is a paucity of large randomised clinical trials to define best  
9 practice in treating the various subtypes. As a consequence there are considerable  
10 differences between centres and countries in the ways in which some subtypes of  
11 the disease are diagnosed and managed.

12 There have been some improvements in outcome for people with non-Hodgkin's  
13 lymphoma in the last decade, but these have been relatively modest and there is still  
14 a need for improvement. This is a rapidly developing field, with a number of new  
15 therapies proving to be exciting in initial studies. It is too soon, however, to judge  
16 their long-term impact, and ongoing assessment of these new agents compared with  
17 standard therapy will be needed.

18 This guideline covers adults and young people (16 years and older) who are referred  
19 to secondary care with suspected non-Hodgkin's lymphoma, or who have newly  
20 diagnosed or relapsed non-Hodgkin's lymphoma. It addresses a number of areas  
21 where there is uncertainty or variation clinical practice, in relation to diagnosing non-  
22 Hodgkin's lymphoma and management of the subtypes at different times in the  
23 course of the disease. It is not intended as a comprehensive guide to diagnosing and  
24 treating lymphomas. Topics include the best type of biopsy for diagnosis, genetic  
25 testing, the role of FDG-PET-CT imaging in staging, patient information needs and  
26 survivorship. Management of the more common subtypes is covered: that is,  
27 follicular lymphoma, MALT lymphoma, mantle cell lymphoma, diffuse large B-cell  
28 lymphoma, Burkitt lymphoma and peripheral T-cell lymphoma.

29 This guideline aims to facilitate standardisation of practice in treating non-Hodgkin's  
30 lymphoma. But because of the rapid development of new therapies as a result of

1 improved understanding of the biology of the disease, continual re-evaluation will be  
2 essential.

### 3 ***More information***

To find out what NICE has said on topics related to this guideline, see our web pages on [blood and bone marrow cancers](#) and [complications of cancer](#) .

## 4 **Recommendations for research**

5 The guideline committee has made the following recommendations for research.

### 6 ***1 Factors predicting outcomes for people with high-grade*** 7 ***transformation of follicular lymphoma***

8 In people with high-grade transformation of follicular lymphoma, which biological and  
9 clinical factors predict good outcomes with immunochemotherapy alone?

#### 10 **Why this is important**

11 Before rituximab, it was accepted that high-grade transformation of follicular  
12 lymphoma to diffuse large B-cell lymphoma portended a poor prognosis. Recent data  
13 suggests that although transformation remains an important clinical event, outcomes  
14 have improved. It is unclear which people are likely to do well with conventional  
15 treatment (such as R-CHOP) and which people may benefit from intensive treatment  
16 with, for example, high-dose therapy and autologous stem cell transplantation. Many  
17 factors are likely to influence outcome, including clinical factors (such as age, stage  
18 at transformation and extranodal involvement at transformation), radiological findings  
19 (such as early improvement of disease identified using an interim FDG-PET-CT  
20 scan) and molecular factors (such as certain driver mutations present at  
21 transformation, the presence of *MYC* translocation and response of circulating  
22 tumour DNA to treatment). A better understanding of which factors are associated  
23 with high-risk or low-risk disease would enable therapy to be tailored to the person's  
24 needs, reducing unnecessary toxicity for people at low risk and reserving intensive  
25 therapy for people at high risk. Outcomes of interest include progression-free  
26 survival and overall survival in subgroups defined by clinical factors, radiological  
27 findings and molecular analyses.

1 **2 Radiotherapy in first-line treatment of diffuse large B-cell**  
2 **lymphoma**

3 In people presenting with diffuse large B-cell lymphoma and sites of bulky disease,  
4 are outcomes improved by radiotherapy to the those sites following a full course of  
5 chemotherapy?

6 **Why this is important**

7 The role of radiotherapy to sites of original bulky disease in treating diffuse large B-  
8 cell lymphoma is uncertain. Some clinical teams will consider radiotherapy in this  
9 setting while others will not because of concerns about morbidity and late effects of  
10 treatment. In a recent randomised trial of chemotherapy in people with diffuse large  
11 B-cell lymphoma over 60 years old, people having radiotherapy were identified and  
12 compared with a cohort having no radiotherapy. Significant improvements in event-  
13 free, progression-free and overall survival were seen in the group having  
14 radiotherapy. These results have encouraged some teams to reconsider  
15 radiotherapy for bulky diffuse large B-cell lymphoma. A definitive randomised trial is  
16 needed to address this question. Outcomes of interest include overall survival,  
17 disease-free survival, progression-free survival, treatment-related mortality,  
18 treatment-related morbidity, health-related quality of life, patient satisfaction, patient  
19 preference and overall response rate (complete or partial remission).

20 **ISBN:**