

HCT in NHL

HIGHLIGHTS OF TRENDS IN NON-HODGKIN LYMPHOMAS (NHL)



INSIDE:

1

Latest transplant outcomes

Clinical advances have led to steady increases in NHL transplant outcomes – 17% improvement in one-year survival.

2

Transplant in older patients

Older patients with lymphoma undergoing reduced-intensity transplantation can have comparable outcomes to those receiving myeloablative transplants.

3

Evidence-based guidelines

Current clinical practice and medical literature serve as the foundation for transplant consultation guidelines.



Current state of transplant in non-Hodgkin lymphomas

Allogeneic or autologous hematopoietic cell transplantation (HCT) is often appropriate for patients with relapsed/refractory non-Hodgkin lymphoma (NHL). This summary provides an overview of the current state of

transplant in NHL and highlights of current research for clinicians considering whether and when to apply transplant for patients with advanced NHL.

Improved survival

Outcomes improved over time

Allogeneic hematopoietic cell transplantation (HCT) outcomes have steadily improved over the last decade due to several clinical advances, including improved donor-patient HLA matching and better post-transplant care.¹⁻²

The outcomes of unrelated donor transplantation for patients with NHL are shown in Table 1. Between 2000 and 2009, one-year survival has increased 17%, and two-year survival has increased 11%. Since 1990, one-year survival has increased 24% and two-year survival has increased 19%.

Improved Survival Over Time - NHL			
YEAR OF HCT	NO. OF CASES	ONE-YEAR SURVIVAL	TWO-YEAR SURVIVAL
2007-2009	608	61%	49%
2004-2006	352	57%	45%
2000-2003	322	44%	38%
1990-1999	196	37%	30%

Table 1. One- and two-year overall survival in adult NHL, allogeneic unrelated transplants facilitated by the National Marrow Donor Program® (NMDP), with no prior autologous transplant.³

Improved outcomes lead to increased use

Improved outcomes have led to an increase in the number of allogeneic and autologous transplants performed in patients with NHL. Figure 1 shows the increase in the number of transplants facilitated by the NMDP for NHL from 2001-2010.

The number of NMDP transplants for NHL patients older than 50 has significantly increased due to the development of and improvements in reduced-intensity conditioning regimens.

NMDP Unrelated Donor Transplants in Adults with NHL

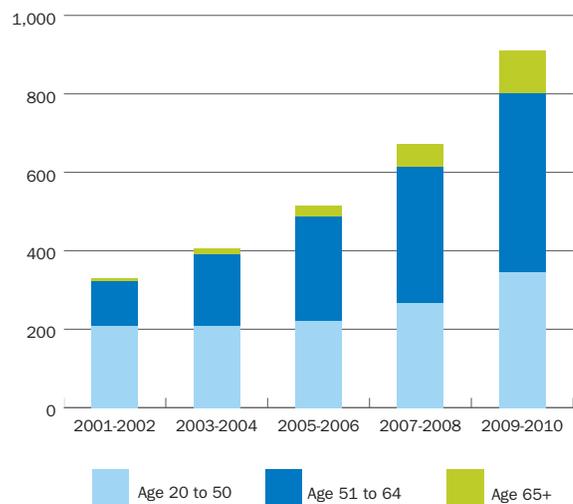
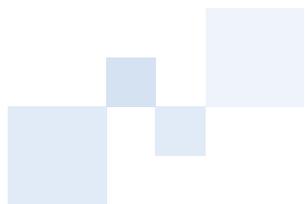


Figure 1. Distribution of unrelated donor transplants, by age, 2001-2010 for NHL facilitated by the NMDP.⁴



Patient selection changing; guidelines developed

Older patients eligible

The advent of reduced-intensity conditioning regimens has expanded allogeneic transplantation to older NHL patients and those with comorbidities unable to undergo fully myeloablative transplantation. Figure 1 also shows that the greatest increase in NMDP transplants for NHL has occurred in patients age 51-64 and in those ≥ 65 .

Recent studies have shown that reduced-intensity or non-myeloablative HCT in lymphoma patients can have comparable outcomes to myeloablative transplants.⁵⁻⁷ These comparable outcomes were achieved despite the fact that patients undergoing non-myeloablative/reduced-intensity HCT were older and/or had more prior treatments than patients receiving myeloablative conditioning.

Evidence-based guidelines for transplant consultation

The NMDP and the American Society for Blood and Marrow Transplantation (ASBMT) have jointly developed guidelines to identify patients with hematologic disorders who are at risk of disease progression and, therefore, should be evaluated for auto-/allo-transplantation. These guidelines are based upon current clinical practice and medical literature, including comprehensive evidence-based reviews.⁸ Table 2 shows an excerpt of these guidelines relating to patients with NHL.

Referral guidelines: recommended timing for transplant consultation

<i>Non-Hodgkin Lymphoma</i>
FOLLICULAR
• Poor response to initial treatment
• Initial remission duration <12 months
• Second relapse
• Transformation to diffuse large B-cell lymphoma
DIFFUSE LARGE B-CELL OR HIGH-GRADE LYMPHOMA
• At first or subsequent relapse
• CR1 for patients with high or high-intermediate IPI risk
• No CR with initial treatment
MANTLE CELL
• Following initial therapy

Table 2. Excerpt from NMDP/ASBMT guidelines for transplant consultation for patients with NHL.⁸

In-depth clinical decision-making resources

Further reading

Evidence-based reviews

The American Society for Blood and Marrow Transplantation (ASBMT) publishes evidence-based reviews outlining which patients would benefit most from HCT, the timing of HCT, pre-transplant induction chemotherapy, donor selection, transplantation techniques, and areas of needed research.

ASBMT evidence-based reviews on the role of HCT in NHL:

- Follicular lymphoma (2010)⁹
- Diffuse large B cell lymphoma (2011; update of 2001 review)¹⁰

Recently published reviews

- Chakraverty R, Mackinnon S. Allogeneic transplantation for lymphoma. *J Clin Oncol*. 2011; 29(14): 1855-1863.
- Van Besien K. Current status of allogeneic transplantation for aggressive non-Hodgkin lymphoma. *Current Opin Oncol*. 2011; 23(6): 681-691.
- Reddy N, Savani BN. Treatment options for transformed lymphoma: Incorporating allogeneic stem cell transplantation in a multimodality approach. *Biol Blood Marrow Transplant*. 2011; 17(9): 1265-1272.

CME Online

For an in-depth review of recent NHL research, access *Management of Advanced Non-Hodgkin Lymphomas*, a four-part online CME activity. This program presents research and treatment options for patients with advanced follicular, mantle cell, diffuse large B-cell, and T-cell lymphomas.

QUICK LINKS TO NHL RESOURCES

Access the NHL information from this fact sheet online:

- outcomes data
- clinical guidelines
- NHL CME activity
- recently published research

Visit marrow.org/md-NHL

HCT in NHL

HIGHLIGHTS OF TRANSPLANT TRENDS IN NHL

CLINICAL ACTION POINTS

1

Review current research on transplant in NHL to help guide decision-making.

2

Access online NHL CME activity and outcomes data online.

3

Follow guidelines for transplant consultation timing and consider transplant as treatment option for older patients.

ACCESS NHL GUIDELINES, OUTCOMES



Download the HCT Quick Reference Guidelines mobile app to access NHL transplant consultation guidelines and outcomes data.

Visit marrow.org/md-app or scan this QR code.

References:

1. Karanes C, Nelson GO, Chitphakdithai P, et al. Twenty years of unrelated donor hematopoietic cell transplantation for adult recipients facilitated by the National Marrow Donor Program. *Biol Blood Marrow Transplant.* 2008; 14(9, Suppl.):8-15.
2. MacMillan ML, Davies SM, Nelson GO, et al. Twenty years of unrelated donor bone marrow transplantation for pediatric acute leukemia facilitated by the National Marrow Donor Program. *Biol Blood Marrow Transplant.* 2008; 14(9, Suppl.):16-22.
3. NMDP Data Analysis 2011.
4. NMDP 2010 fiscal year reports.
5. Tomblyn M, Brunstein C, Burns LJ, et al. Similar and promising outcomes in lymphoma patients treated with myeloablative or nonmyeloablative conditioning and allogeneic hematopoietic cell transplantation. *Biol Blood Marrow Transplant.* 2008; 14(5):538-545.
6. Sorror ML, Storer BE, Maloney DG, et al. Outcomes after allogeneic hematopoietic cell transplantation with nonmyeloablative or myeloablative conditioning regimens for treatment of lymphoma and chronic lymphocytic leukemia. *Blood.* 2008; 111(1):446-452.
7. Rodriguez R, Nademanee A, Ruel N, et al. Comparison of reduced-intensity and conventional myeloablative regimens for allogeneic transplantation in non-Hodgkin's lymphoma. *Biol Blood Marrow Transplant.* 2006; 12(12):1326-1334.
8. Evidence-based Reviews, developed by the American Society for Blood and Marrow Transplantation, 2003-2011. Published in *Biology of Blood and Marrow Transplantation* and available online at the "Guidelines, Policy Statements and Reviews" page at ASBMT.org.
9. Oliansky DM, Gordon LI, King J, et al. The role of cytotoxic therapy with hematopoietic stem cell transplantation in the treatment of follicular lymphoma: an evidence-based review. *Biol Blood Marrow Transplant.* 2010; 16(4):443-468.
10. Oliansky DM, Czuczman M, Fisher RI, et al. The role of cytotoxic therapy with hematopoietic stem cell transplantation in the treatment of diffuse large B cell lymphoma: update of the 2001 evidence-based review. *Biol Blood Marrow Transplant.* 2011; 17(1):20-47.



Medical Education, National Marrow Donor Program®
3001 Broadway St. N.E., Minneapolis, MN 55413-1753

1 (800) 526-7809 | marrow.org/md

The National Marrow Donor Program (NMDP) is the global leader in providing marrow and umbilical cord blood transplants to patients with leukemia, lymphoma and other diseases. The nonprofit organization matches patients with donors, educates health care professionals and conducts research so more lives can be saved. The NMDP also operates Be The Match®, which provides support for patients, and enlists others in the community to join the Be The Match Registry® — the world's largest listing of potential marrow donors and donated cord blood units — contribute financially and volunteer. Learn more at marrow.org/md.