Welcome & Introductions

Dr. Lamar's slides are available for download at www.LLS.org/programs, under the program listing.

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Living with Hodgkin Lymphoma

Living with Hodgkin Lymphoma

Zanetta S. Lamar, MD
Assistant Professor, Hematology & Oncology
Maya Angelou Center for Health Equity
Redox Biology and Medicine Center
Wake Forest Baptist Comprehensive Cancer Center
Winston-Salem, NC

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LIVING WITH HODGKIN LYMPHOMA:

A PRESENTATION FOR
THE LEUKEMIA AND LYMPHOMA SOCIETY

Zanetta S. Lamar, M.D.

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Living with Hodgkin Lymphoma

LEUKEMIA & LYMPHOMA SOCIETY®

Disclosures

- **Zanetta S. Lamar, MD,** has affiliations with Seattle Genetics *(Consultant, fees waived).*

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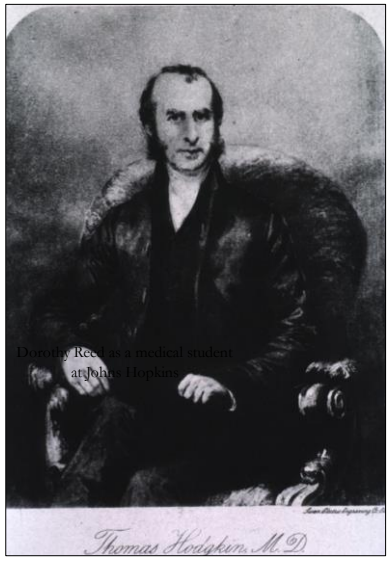
Learning Objectives

- We will discuss
  - History of Hodgkin
  - Epidemiology, presentation, diagnosis
  - Management of early and advanced disease
  - Emerging therapies
  - Shared decision making



Dorothy Reed as a medical student at Johns Hopkins

ON SOME
MORBID APPEARANCES
OF
THE ABSORBENT GLANDS
AND
SPLEEN.

BY DR. HODGKIN.

PRESENTED
BY DR. R. LEE.

READ JANUARY 10TH AND 24TH, 1832.

THE morbid alterations of structure which I am about to describe are probably familiar to many practical morbid anatomists, since they can scarcely have failed to have fallen under their observation in the course of cadaveric inspection. They have not, as far as I am aware, been made the subject of special attention, on which account I am induced to bring forward a few cases in which they have occurred to myself, trusting that I shall at least escape severe or general censure, even though a sentence or two should be produced from some existing work, couched in such concise but expressive language, as to render needless the longer details with which I shall trespass on the time of my hearers.

The Johns Hopkins Hospital Reports, Volume 10, 1902

Dorothy Reed as a medical student at Johns Hopkins

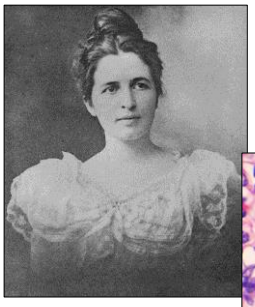
ON THE PATHOLOGICAL CHANGES IN HODGKIN'S DISEASE, WITH ESPECIAL REFERENCE TO ITS RELATION TO TUBERCULOSIS.

By DOROTHY M. REED, M.D.,
Fellow in Pathology, Johns Hopkins University.
[From the Pathological Laboratory of the Johns Hopkins Hospital and University.]

(Plates IV–VII.)

Historical.—It is seventy years since Hodgkin[1] called the attention of the medical world to the peculiar enlargement of the lymphatic glands, which has since been designated by his name. Hodgkin's original paper was a simple report of seven unusual cases, which had come under his observation as pathologist at Guy's Hospital. He noted that the cases agreed in glandular tumors and were frequently associated with enlargement of the spleen. He did not attempt any critical analysis of his material, and undoubtedly had no conception that, in one or possibly two of his cases, he was dealing with a peculiar and rare disease. The other cases have no interest for us in this connection, as they are instances of tuberculosis, syphilis and possibly leukæmia.

The Johns Hopkins Hospital Reports, Volume 10, 1902



Dorothy Reed as a medical student at Johns Hopkins

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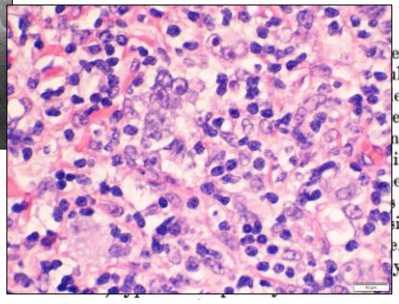

Reed Sternberg cell

The Johns Hopkins Hospital Reports, Volume 10, 1902

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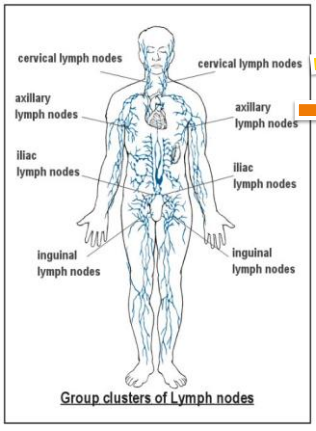
Epidemiology

- 8,260 cases diagnosed in 2017
- Represent 0.5% of all new cancer cases
- Five years after diagnosis 86.4% remain alive

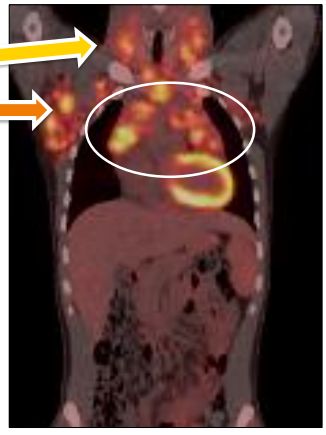
Based on November 2016 SEER data submission.

Presentation

Lymph node groups

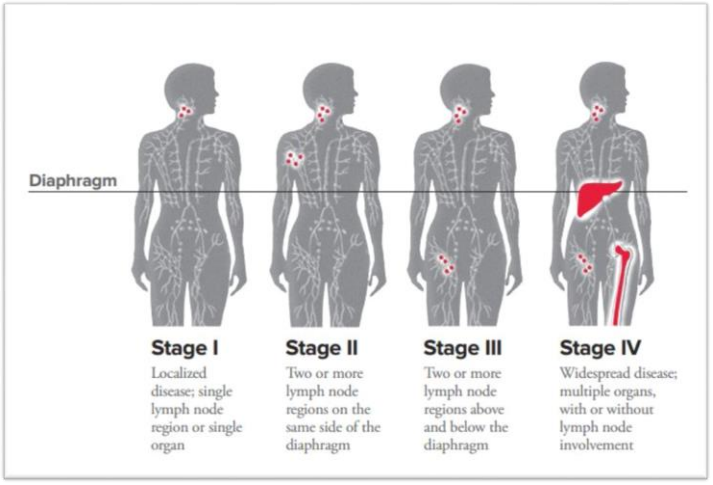


PET scan



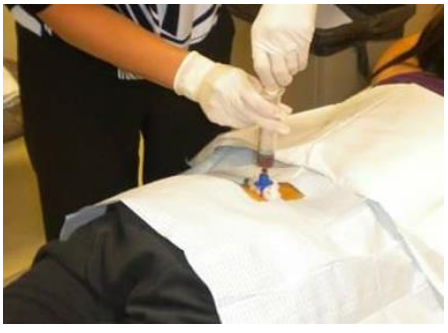
Hoppe, 2007, Hodgkin Lymphoma, LWW p125

Staging



Courtesy of the Leukemia and Lymphoma Society

Staging



Bone marrow biopsies are no longer routinely performed

Courtesy of the Leukemia and Lymphoma Society

The distant past….

Hodgkin disease is a systemic disease and invariably fatal

Adapted from Saul A. Rosenberg

The distant past….

Hodgkin diseas
disease and ir

Laparotomy and splenectomy are required for best results

Adapted from Saul A. Rosenberg

The distant past….

Wide-field high dose irradiation is treatment of choice for Stage I-III disease

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Adapted from Saul A. Rosenberg

The distant past….

Chemotherapy is reserved for patients with advanced disease

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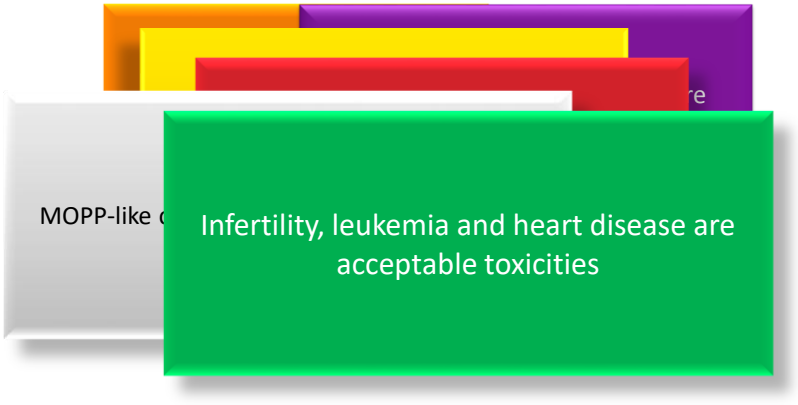
Adapted from Saul A. Rosenberg

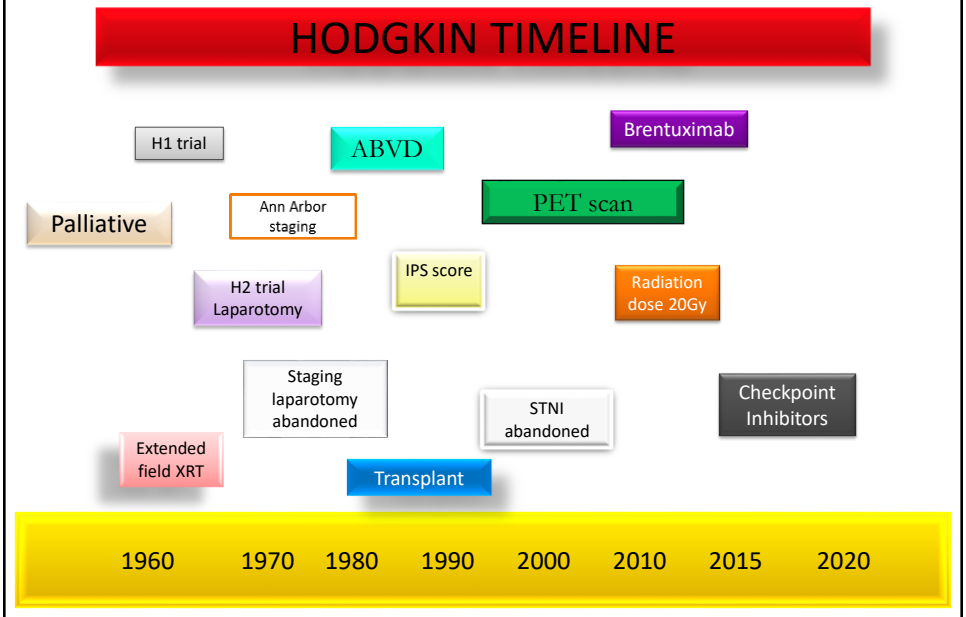
The distant past….

Adapted from Saul A. Rosenberg

The distant past….



Adapted from Saul A. Rosenberg



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Early stage favorable Hodgkin

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Early stage favorable Hodgkin

Study	Stage	Treatment	Outcome
NCIC HD.6	IA or IIA	ABVD x 4 – 6 cycles	94% at 12 years

* Excluded for: bulky disease, ≥3 nodal areas, elevated ESR

Early stage favorable Hodgkin

Can we safely reduce the chemotherapy or radiation doses?

Study	Stage	Study findings	Outcome
HD10	IA-IIB*	ABVD x 2 cycles then 20 Gy radiation	91% at 5 years
HD13	I-IIA	ABVD x 2 cycles then 30Gy radiation remained standard. Cannot routinely omit Bleomycin or dacarbazine	93% at 5 years

* Excluded for: bulky disease, ≥3 nodal areas, elevated ESR

Can we safely use a PET scan to guide therapy?

Early stage favorable Hodgkin PET directed therapy trials

Study	Stage	Treatment	Outcome
RAPID	IA – IIA Non-bulky	ABVD x 3 cycles if PET scan (-) (Deauville 1 or 2)	91% at 3 years
EORTC H10	I-II	ABVD x 2 cycles if PET (-) then ABVD x 1 and involved node radiation (INRT)	99% at 5 years
	I-II	ABVD x 2 cycles if PET scan (+) then escalated BEACOPP x 2 cycles and INRT	91% at 5 year

* Excluded for: bulky disease, ≥3 nodal areas, elevated ESR

Pet scan Deauville score

	Score	Pet scan findings
Complete response	1	No uptake
	2	Uptake is ≤ mediastinal (chest region) blood pool
	3	Uptake is ≥ mediastinal blood pool but ≤ liver
Partial response or progression	4	Uptake more than the liver
	5	Uptake markedly higher than liver +/- new disease sites

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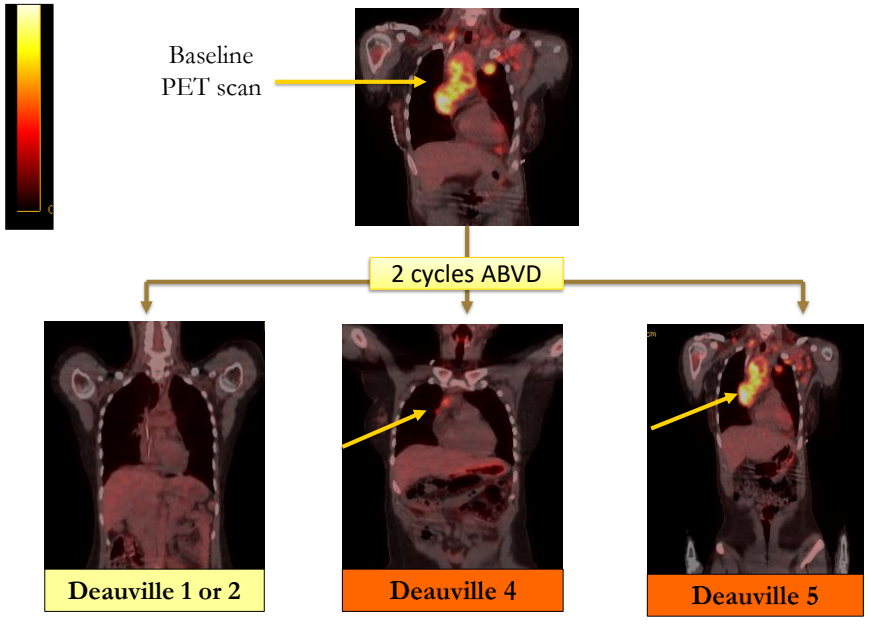

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Early stage treatment

	Pros	Cons
ABVD	Associated with high cure rates	Side effects, bleomycin lung toxicity
	Low risk of infertility	
	Better tolerated	Results improved with radiation
Radiation	Associated with high cure rates	Associated with increased risk of future cancers
	Doses of radiation has decreased significantly	
Stanford V	Associated with high cure rates	Results similar to ABVD
BEACOPP	Associated with high cure rates	Risk of secondary malignancies, infertility, premature menopause

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ABVD side effects

- Decreased blood counts
- Hair loss
- Nausea/vomiting
- Neuropathy

Component	Value	Ref Range & Units
WBC	2.1 ↓	4.8 - 10.8 X1000
RBC	4.11 ↓	4.2 - 5.4 X1,000,000
HEMOGLOBIN	11.4 ↓	12.0 - 16.0 G/DL
HEMATOCRIT	33.7 ↓	37.0 - 47.0 %
MCV	82.0	81.0 - 99.0 FL
MCH	27.7	27 - 31 PG
MCHC	33.7	33.0 - 37.0 G/DL
RDW	12.3	11.5 - 14.5 %
PLATELET COUNT	303	160 - 360 X1000

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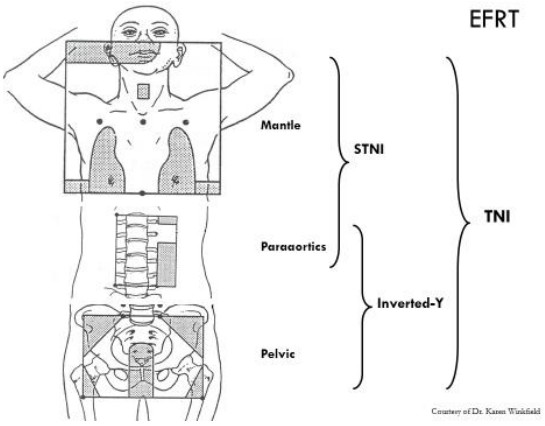
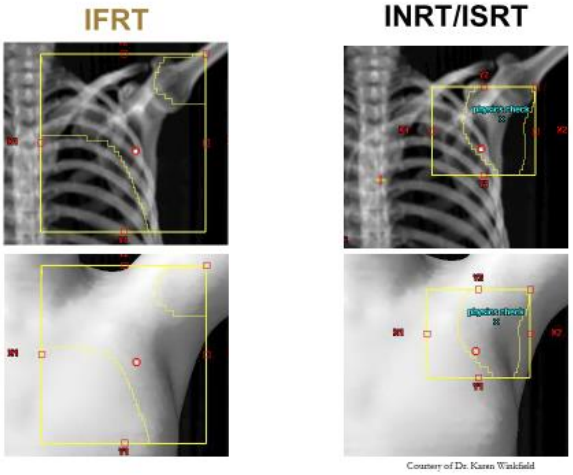
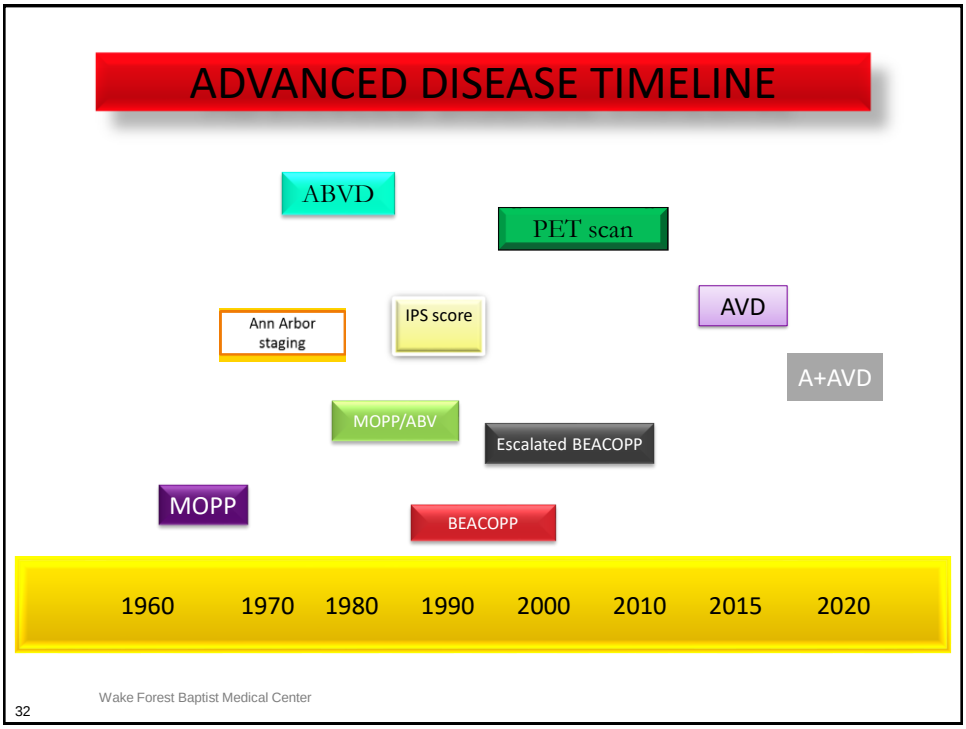
Radiation



Radiation



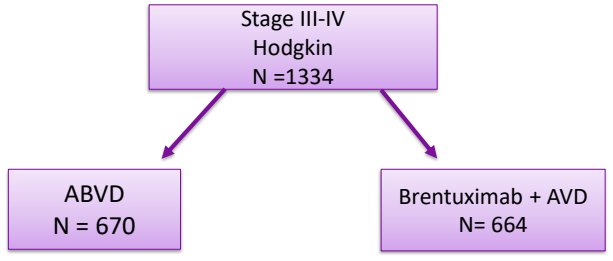
- Early *un*favorable and advanced stage Hodgkin



Treatment options for early *un*favorable or advanced Hodgkin

Name of study	Treatment	Outcome
ECOG 2496	ABVD x 6 cycles	74% at 6 years
Viviani	BEACOPP x 8 cycles +/- radiation	85%
RATHL	ABVD x 2 cycles, PET scan (-) then AVD x 4 cycles	84% at 3 years
ECHELON-1	Brentuximab and AVD	82% at 2 years

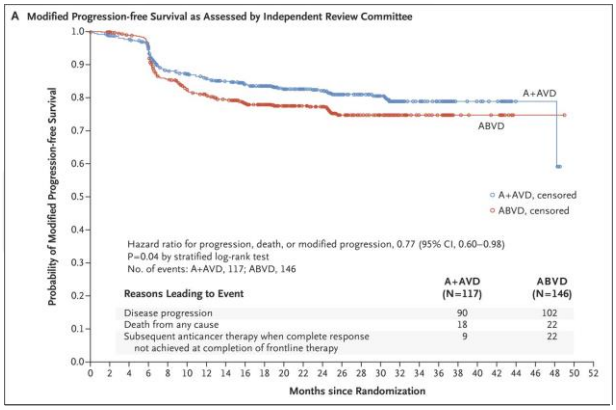
ECHELON



Connors, NEJM 2017

NEW

ECHELON



Connors, NEJM 2017

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Advanced stage treatment

	Pros	Cons
ABVD x 6 cycles	High cure rates	Bleomycin toxicity Side effects worse in >60 yrs
BEACOPP x 8 cycles	Better disease control	Toxic, less experience in the US
ABVD x 2 cycles, PET scan (-) then AVD x 4 cycles	Slightly reduced risk of bleomycin toxicity	If PET scan positive, ideal treatment less clear
Brentuximab and AVD	No risk of bleomycin toxicity	Cost of brentuximab
	May be slightly more effective than ABVD	Requires growth factor
		Risk of neuropathy
		More follow up needed

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- What if the cancer does not go away or what if it comes back……

AETHERA TRIAL

Risk factors:
No complete remission
Remission < 1 year
Extranodal involvement

329 patients with high risk Hodgkin

Transplant

Brentuximab 1.8mg/kg N = 165

Placebo N= 164

Brentuximab consolidation = 42.9 months

Placebo = 24.1 months

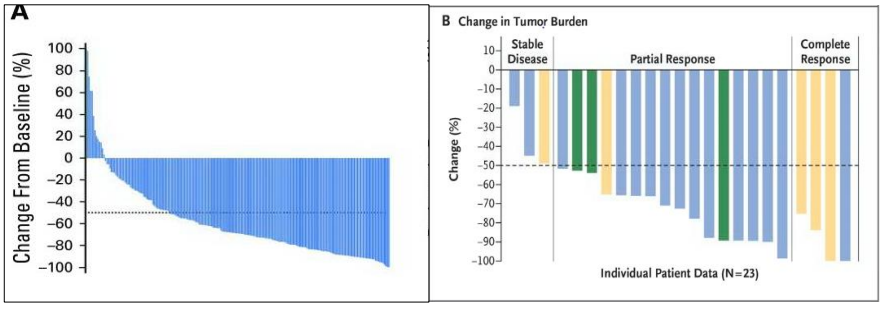
Moskowitz, et al. Lancet. 2015

PD-1 inhibitors

- Also called checkpoint inhibitors
- Acts as gatekeepers on T cell function
- Nivolumab
- Pembroluzimab

Slide A Chen, et al, JCO 2017
Slide B: Ansell, et al, NEJM 2015

PD-1 inhibitors



Slide A Chen, et al, JCO 2017
Slide B: Ansell, et al, NEJM 2015

Therapy combinations under investigation

Brentuximab +	Nivolumab+	Pembroluzimab+
ICE	AVD	Acalabrutinib
Bendamustine	Ibrutinib	Brentuximab
Dacarbazine	ICE	Lenalidomide
Ipilumumab	Ipilumumab	
Nivolumab	Lenalidomide	Lenalidomide

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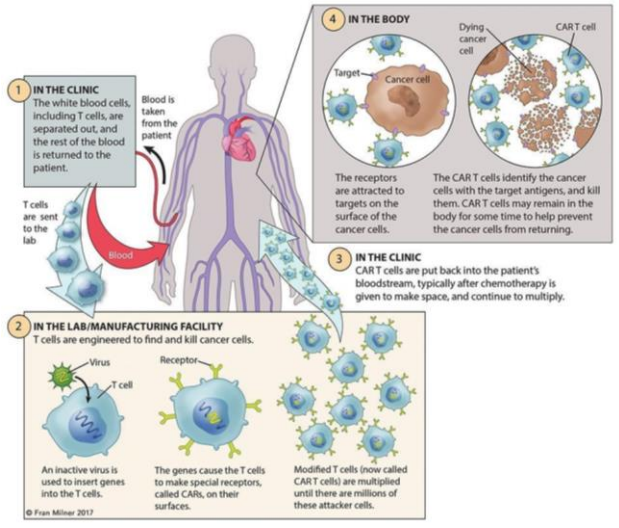
The future is here
Chimeric antigen receptor (CAR) T cell



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Shared decision making

- Newly diagnosed
  - How will treatment affect….
    - Fertility, cardiovascular disease, risk of another cancer (skin, breast, lymphoma)
    - Finances??
    - Herbal supplements…
  - Interim PET scan
    - Will treatment change based on the results?

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Shared decision making

- Post-treatment
  - How often will scans be performed?
  - How long will I deal with memory problems, sexual dysfunction, fatigue, peripheral neuropathy?
  - When should I transition to primary care?

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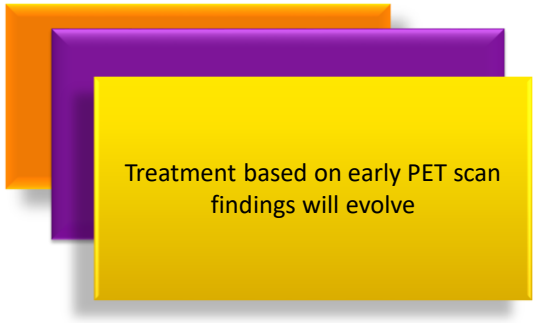
The present….

Hodgkin is curable

The present….

Excisional biopsy preferred for diagnosis

The present….



The present….

The present….

The treatment of choice for Hodgkin is likely to change in the next few years

The present….

Treatment goal is not only cure of Hodgkin but also improving quality of life during and after therapy

The Future

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WAKE TEAM LYMPHOMA

Medical Oncology

Maurizio Bendandi
Rakhee Vaidya
Kathryn Mercer

Radiation Oncology

Karen Winkfield

Nursing

Tonya Johnson
Stephanie Bollinger

Hematopathology

David Grier
Michael Beaty
Stacey O'Neill
Robert McCall
Nancy Rosenthal

Pharmacy

Jessica Duda
LeAnne Kennedy

Thanks to my team and thank you for listening

Living with Hodgkin Lymphoma

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Q&A Session

Ask a question by phone:

- Press star (*) then the number 1 on your keypad.

Ask a question by web:

- Click “Ask a question”
- Type your question
- Click “Submit”

Due to time constraints, we can only take one question per person. Once you have asked your question, the operator will transfer you back into the audience line.

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The Leukemia & Lymphoma Society Offers:

- **LLS Information Specialists:** Master’s level oncology professionals who can assist you through cancer treatment, financial and social challenges, and give accurate up-to-date disease, treatment, and support information.
  - **EMAIL:** infocenter@LLS.org
  - **TOLL-FREE PHONE: 1-800-955-4572**
- **Free Education Booklets:**
  - www.LLS.org/booklets
- **Free Telephone/Web Programs:**
  - www.LLS.org/programs
- **Live, Weekly Online Chats:**
  - www.LLS.org/chat

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The Leukemia & Lymphoma Society Offers:

- **Support Resources:** LLS Community, discussion boards, blogs, support groups, financial assistance, and more: www.LLS.org/support
- **LLS Podcast, *The Bloodline with LLS:*** Listen in as experts and patients guide listeners in understanding diagnosis, treatment, and resources available to blood cancer patients: www.thebloodline.org
- **Education Video:** Free education videos about survivorship, treatment, disease updates, and other topics: www.LLS.org/educationvideos
- **Patti Robinson Kaufmann First Connection Program:** Peer-to-peer program that matches newly diagnosed patients and their families: www.LLS.org/firstconnection
- **Free Nutrition Consults:** Telephone and email consultations with a Registered Dietitian: www.LLS.org/nutrition
- **What to ask:** Questions to ask your treatment team: www.LLS.org/whattoask

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THANK YOU FOR PARTICIPATING!

We have one goal:
A world without blood cancers

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