

Bringing the Fight to Cancer: Cell Therapy Research

PIERCE COUNTY CANCER SURVIVORSHIP CONFERENCE

AUGUST 7, 2019

UNIVERSITY OF PUGET SOUND



Motivation to fight!



We want more survivor stories!



Cancer affects so many of us...

- In 2016, a total of 1,658,716 **new** cancer cases were reported in the United States: 833,308 among males and 825,408 among females.*
- Highest incidence rates among males were prostate, lung and bronchus, and colon and rectum. Among females, the three leading sites—breast, lung and bronchus, and colon and rectum—accounted for half of cancers diagnosed among females in 2016*

*2001–2016 Database: National Program of Cancer Registries and Surveillance, Epidemiology, and End Results SEER*Stat Database: NPCR and SEER Incidence – U.S. Cancer Statistics Public Use Research Database, November 2018 submission (2001–2016), United States Department of Health and Human Services, Centers for Disease Control and Prevention and National Cancer Institute based on the November 2018 submission. Available at www.cdc.gov/cancer/uscs/



The new frontier of cancer treatment- Immune/Cell Therapy

- Cell Therapy – relatively new field of medicine
- Work at the Hutch
- Teaching immune cells to recognize cancer cells and destroy them
- Early successes and failures

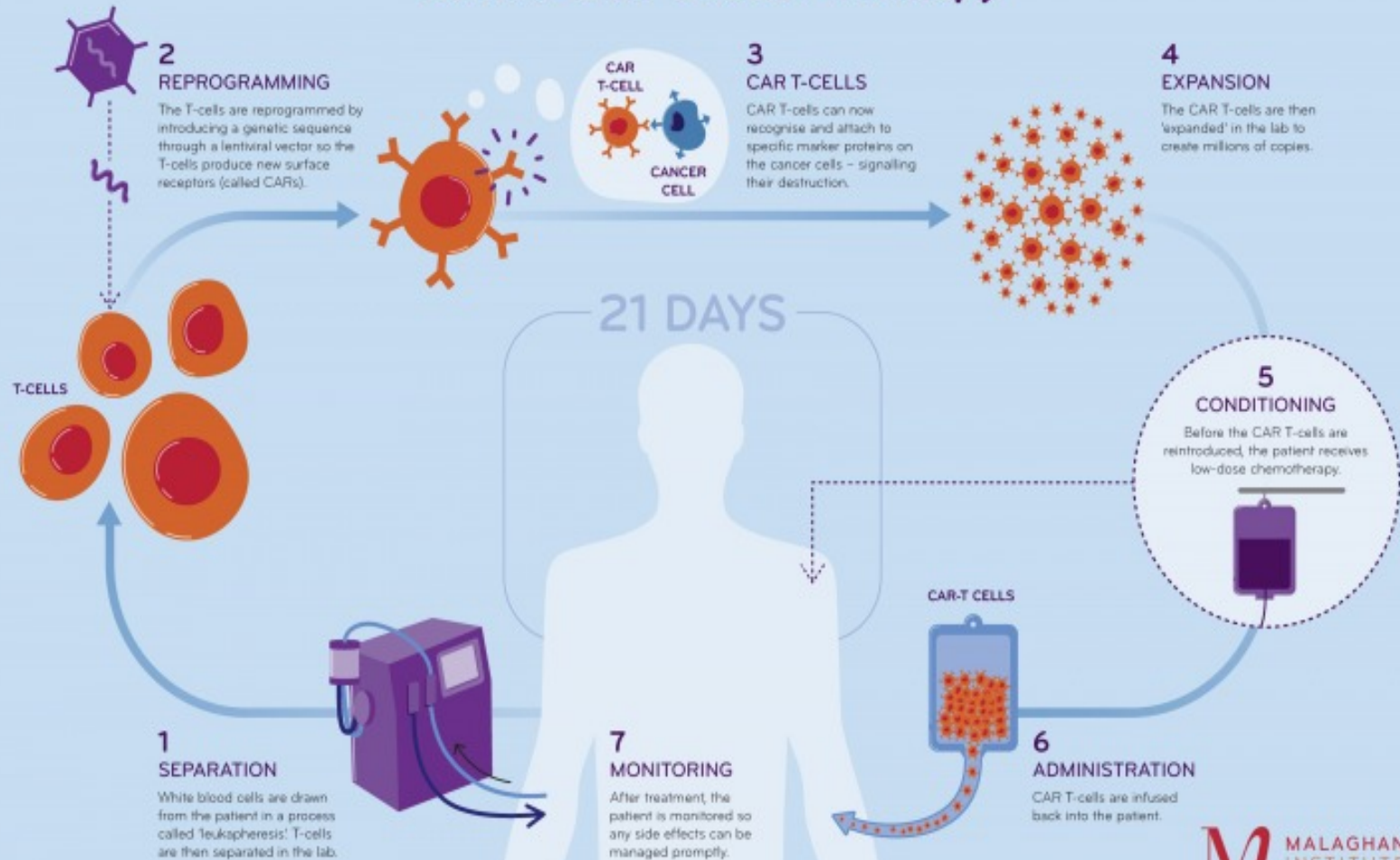


The Mechanisms behind it

- CAR-T therapy - how does it work
- Engineering cells to kill malignant cells and not destroy healthy cells
- First approved therapies have been autologous
- Currently two new approved therapies: Kymriah (Novartis) and Yescarta (Kite Pharma)
- Yescarta- refractory large B cell lymphoma adult patients
- Kymriah- patients up to 25 yrs. old with B cell ALL that is refractory or adult patients with refractory large B cell lymphoma



CAR T-Cell Cancer Therapy



M MALAGHAN
INSTITUTE
OF MEDICAL RESEARCH

How do we help support Cell Therapy Research?

Our History

Our Core Competencies

The Research We Support



Collection of white
blood cells by apheresis

Autologous vs.
Allogeneic

Healthy subjects and
subjects with
hematologic
malignancies

Leukapheresis



Donors are the starting point for new discoveries





Cell Processing



- Ability to produce selected cells (NK cells, T reg cells, B cells)
- Ability to purify leukapheresis products
- Ability to freeze cells for future use

Flow cytometry analysis of cell products



Cell Packaging and Logistics

- How do cells best make transit from bedside to cell product manufacturing facility
- Biological shipper systems built to maintain temperatures for long periods of time
- Conquering the “tyranny of distance”
- Fresh vs. Frozen



The Pacific Northwest



- The first FDA approved cell therapy was Provenge
- Approval in 2006
- Treatment for males who have prostate cancer.
- Brought to realization by Dendreon. A company that began here in the Pacific Northwest.
- Series of 3 leukapheresis collections/ 3 reinfusions of the cell therapy product
- Clinical sites all across the U.S. to serve patients.



The Pacific Northwest



- Targeting Relapsed or Refractory B-cell Non-Hodgkin Lymphoma
- Targeting Ovarian Cancer
- Targeting Non-small Cell Lung Cancer or Mesothelioma
- Breast Cancer



Merger with Astarte Biologics

- August of 2018
- Astarte Biologics founded by Dr. Anne Lodge, PhD
- Located in Bothell, Washington
- Merger strengthened Key's support to the life sciences industry to now include the whole life science discovery timeline: early/basic research to pre-clinical support, to clinical collections





**CASCADE REGIONAL
BLOOD SERVICES**
YOUR COMMUNITY BLOOD CENTER

A New Alliance

Cascade Regional Blood Services (CRBS)



Supplying blood and blood products to hospitals and health centers in Pierce and South King counties since 1946



Our partnership with CRBS

Agreement signed this year – January 2019

Start of leukapheresis operations targeted for August 2019

Puyallup, Washington center

“We are excited to partner with Key Biologics and expand upon our long history of supporting research activities. We look forward to offering our donors new opportunities for saving lives and contributing to scientific advancement.”

Christine Swinehart, CEO of CRBS



Together we fight.

