



Medical Writing as a Career

Jessie Filer, PhD

Agenda



Contact
Information



Overview of
Medical Writing



Skills of a Medical
Writer



Development
Process



Preparing for a
Med Comms
Career



Additional
Resources

Select a navigation button to jump to a section



Contact Information



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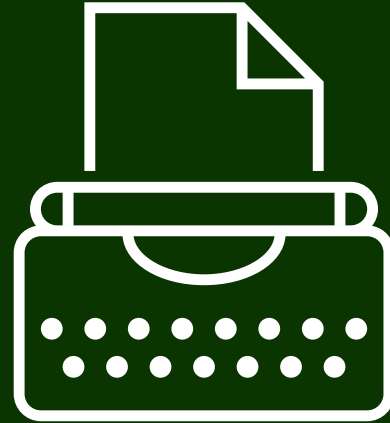


[@JessieFiler](https://twitter.com/JessieFiler)



<https://aletheiamedcomms.com/>





Overview of Medical Writing



“**Medical writing** involves the development and production of print or digital documents that deal specifically with medicine or health care”

Ultimate guide to becoming a medical writer. American Medical Writers Association. Accessed November 11, 2021.
https://info.amwa.org/ultimate-guide-to-becoming-a-medical-writer#what_is_medical_writing

Medical Writing is Important

Benefits of a medical writer include:

- Clear and effective writing
- Higher quality reporting of clinical trials
- Accordance with publication guidelines and journal style
- Guidance on good publication practices and authorship requirements
- Editorial support
- Timeline management



Gattrell WT, Hopewell S, Young K, et al. Professional medical writing support and the quality of randomised controlled trial reporting: a cross-sectional study. *BMJ Open*. 2016;6(2):e010329. Published 2016 Feb 21. doi:10.1136/bmjopen-2015-010329; Sharma S. Professional medical writing support: The need of the day. *Perspect Clin Res*. 2018;9(3):111-112. doi:10.4103/picr.PICR_47_18



Areas of Medical Writing

Regulatory Writing	Scientific Publications	Medical Affairs	Professional Education	Grantsmanship	Medical Copywriting	Health Communications
<ul style="list-style-type: none"> Documents submitted to regulatory agencies (eg, FDA) for drugs, biologics, and medical devices in the approval process 	<ul style="list-style-type: none"> Peer-reviewed manuscripts Abstracts Oral/poster presentations Medical news and feature articles for professional audiences Conference proceedings 	<ul style="list-style-type: none"> Slide decks Workshops Advisory board summaries 	<ul style="list-style-type: none"> CME Needs Assessments Sales training 	<ul style="list-style-type: none"> Grant proposals for funding for research or education 	<ul style="list-style-type: none"> Marketing or advertising materials to promote drugs, medical devices, or other inventions 	<ul style="list-style-type: none"> Patient education Health news Public health communication Website content Other materials for lay audiences
Technical						Plain Language

CME, continuing medical education; FDA, Food and Drug Administration



Areas of Medical Writing

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CME, continuing medical education; FDA, Food and Drug Administration



Scientific Publications

REGULAR ARTICLE



Grading and management of cytokine release syndrome in patients treated with tisagenlecleucel in the JULIET trial

Stephen J. Schuster,¹ Richard T. Maziarz,² Elisha S. Rusch,³ Junlong Li,⁴ James E. Signorovitch,⁴ Vadim V. Romanov,⁵ Frederick L. Locke,⁶ and David G. Maloney⁶

¹Lymphoma Program, Abramson Cancer Center, University of Pennsylvania, Philadelphia, PA; ²Center for Hematologic Malignancies, Oregon Health & Science Knight Cancer Institute, Portland, OR; ³Novartis Pharmaceuticals Corporation, East Hanover, NJ; ⁴Analysis Group, Inc., Boston, MA; ⁵H. Lee Moffitt Cancer Center, Tampa, FL; and ⁶Fred Hutchinson Cancer Research Center, Seattle, WA

Key Points

- Clinical trials of different CAR-T products for patients with r/r DLBCL are not aligned on CRS grading scales and management algorithms.
- Regrading of CRS from the JULIET trial using the Pen ASTCT lights the standard grading

Chimeric antigen receptor T-cell (CAR-T) therapy yields durable responses in patients with relapsed/refractory diffuse large B-cell lymphoma (r/r DLBCL). Cytokine release syndrome (CRS) is a CAR-T therapy-related adverse event. To date, clinical trials of different CAR-T products have not been aligned on CRS grading scales and management algorithms. We assessed concordance between the Penn, Lee, and American Society for Transplantation and Cellular Therapy (ASTCT) grading systems by retrospectively regrading CRS events in the JULIET (A Phase 2, Single Arm, Multicenter Trial to Determine the Efficacy and Safety of CTL019 in Adult Patients With Relapsed or Refractory DLBCL) trial. Four medical experts with experience treating patients with 3 different CAR-T products independently regraded individual patient-level CRS events from the phase 2, global, pivotal JULIET trial (NCT02445248). As of 8 December 2017, a total of 111 patients with r/r DLBCL underwent

Acknowledgments

The investigators thank the patients and their families, and the clinical trial teams who participated in the JULIET trial.

Medical writing support was provided by Ina Nikolaeva (Healthcare Consultancy Group) and was funded by Novartis Pharmaceuticals Corporation. Editorial assistance was provided by Marie Louise Edwards, Lei Yin, and Yichen Lu from Analysis Group, Inc., and was supported by Novartis Pharmaceuticals Corporation. The trial was sponsored by Novartis Pharmaceuticals Corporation.

Meeting Abstract | 2021 ASCO Annual Meeting |

HEMATOLOGIC MALIGNANCIES—LYMPHOMA AND CHRONIC LYMPHOCTIC LEUKEMIA

Efficacy and safety of tisagenlecleucel (Tisa-cel) in adult patients (Pts) with relapsed/refractory follicular lymphoma (r/r FL): Primary analysis of the phase 2 Elara trial.

Check for updates

Stephen J. Schuster, Michael J. Dickinson, Martin H. Dreyling, Joaquin Martínez, Arne Kolstad, Jason Paul Butler, ...

Show More

Abstract Disclosures

Abstract

7508

Background: Most pts with r/r FL experience multiple relapses and progressively worse clinical outcomes with each line of therapy, underlining a need for novel therapies. Tisa-cel has demonstrated durable responses and manageable safety in adult pts with r/r diffuse large B-cell lymphoma. Here we report the primary analysis of ELARA, an international, single-arm phase 2 trial of tisa-cel in adult pts with r/r FL. **Methods:** Eligible pts (≥ 18 y) had r/r FL (grades [Gr] 1-3A) after ≥ 2 lines of therapy or had failed autologous stem cell transplant. Bridging therapy was permitted followed by disease assessment prior to tisa-cel infusion. Pts received tisa-cel (0.6-6x10⁸ CAR+ viable T cells) after lymphodepleting chemotherapy. The primary endpoint was complete response rate (CRR) by central review per Lugano 2014 criteria. Secondary endpoints included overall response rate (ORR), duration of response (DOR), progression-

Frigault MJ. Tisagenlecleucel shows response with Myc expression and tumor-infiltrating T Cells in the phase 2 JULIET trial for r/r DLBCL. *OncoLive*. Published January 25, 2021. Accessed November 14, 2021. <https://www.onclive.com/view/phase-2-juliet-trial?seriesVid=1>; Rapoport AP, Hoffman JE, Kaufman JL, et al. Open-label pilot study of genetically engineered NY-ESO-1 specific T cells (GSK 3377794) alone or in combination with pembrolizumab in relapsed and refractory multiple myeloma. Poster presented at American Society for Clinical Oncology Congress; May 29-31, 2020; Virtual Scientific Program; Schuster SJ, Dickinson MJ, Dreyling, MH, Martínez J, et al. Efficacy and safety of tisagenlecleucel (Tisa-cel) in adult patients (Pts) with relapsed/refractory follicular lymphoma (r/r FL): Primary analysis of the phase 2 Elara trial. *J Clin Oncology*. 2021;39(suppl):15. ASCO Annual Meeting abstract 7508; Schuster SJ, Maziarz RT, Rusch E, et al. Grading and management of cytokine release syndrome in patients treated with tisagenlecleucel in the JULIET trial. *Blood Adv*. 2020;4(7):1432-1439. doi:10.1182/bloodadvances.2019001304

Poster 1194
Ulrich Jaeger
Ulrich.Jaeger@medunwien.ac.at

Myc Expression and Tumor-Infiltrating T Cells Are Associated With Response in Patients With Relapsed/Refractory Diffuse Large B-Cell Lymphoma (r/r DLBCL) Treated With Tisagenlecleucel in the JULIET Trial

Ulrich Jaeger,¹ Michael R. Bishop,² Gilles Salles,³ Stephen J. Schuster,⁴ Richard T. Maziarz,⁵ Xia Han,⁶ Alexander Savchenko,⁷ Nathan Roscoe,⁸ Elena Orlando,⁹ Dawson Knoblock,⁶ Ranjan Tiwari,¹⁰ Lida Bubuteishvili Pacaud,⁶ Paolo Corradini¹¹

¹Clinical Division of Hematology and Hematopathology, Department of Medicine I, Vienna General Hospital – Medical University of Vienna, Vienna, Austria; ²Hematologic Cellular Therapy Program, Section of Hematology/Oncology, University of Chicago, Chicago, IL; ³Hematology Department, Hospices Civils de Lyon, Lyon-Sud Hospital, Lyon, France; ⁴Lymphoma Program, Abramson Cancer Center, University of Pennsylvania, Philadelphia, PA; ⁵Department of Hematology, Oregon Health and Science University, Portland, OR; ⁶Novartis Pharmaceuticals Corporation, East Hanover, NJ; ⁷Oncology Precision Medicine, Novartis Pharmaceuticals Corporation, Cambridge, MA; ⁸Novartis BioPharma, Göttingen, CA; ⁹Novartis Institute for Biomedical Research, Cambridge, MA; ¹⁰Novartis Healthcare Pvt. Ltd, Hyderabad, India; ¹¹Division of Hematology & Stem Cell Transplantation, Fondazione IRCCS Istituto Nazionale dei Tumori, University of Milan, Milan, Italy

Presented with permission from Ulrich Jaeger, MD. Poster presented at the 2020 ASCO Annual Meeting & Symposium, held virtually on 8-9 December 2020.

Matthew J. Frigault, MD
Massachusetts General Hospital Cancer Center
Boston, Massachusetts

Open-Label Pilot Study of Genetically Engineered NY-ESO-1 Specific T Cells (GSK337794) Alone or in Combination With Pembrolizumab in Relapsed and Refractory Multiple Myeloma

Poster No. 458

Background: T-cell therapy aims to generate an antitumor T cell response to NY-ESO-1. However, NY-ESO-1-specific T cells are often exhausted and have limited persistence. Genetically engineered NY-ESO-1-specific T cells (GSK337794) are designed to overcome these limitations. This study aims to evaluate the safety and efficacy of GSK337794 in relapsed and refractory multiple myeloma (RRMM).

Study design: This is a phase 1/2, open-label, multicenter study. The study is divided into two parts: Part 1 (Phase 1) and Part 2 (Phase 2). Part 1 involves the infusion of GSK337794 alone, and Part 2 involves the combination of GSK337794 and pembrolizumab. The study is designed to evaluate the safety and efficacy of GSK337794 in RRMM.

Patients: Eligible patients include those with RRMM who have received ≥ 2 lines of systemic therapy. Key inclusion criteria include performance status ≥ 2 , hemoglobin ≥ 10 g/dL, platelets $\geq 100,000$ /mm³, and renal function ≥ 1.5 times upper limit of normal. Key exclusion criteria include active infection, uncontrolled hypertension, and other conditions that may confound the results of the study.

Study objectives & endpoints: The primary objective is to evaluate the safety and tolerability of GSK337794 in RRMM. Secondary objectives include evaluating the efficacy of GSK337794 in RRMM. Key endpoints include overall response rate (ORR), complete response rate (CR), and duration of response (DOR).

Current status: As of April 6, 2020, 111 patients have been screened, 47 patients have been enrolled, and 16/30 patients have been treated.



Medical News

Tralokinumab Safe, Effective for Older Adults With Moderate to Severe AD

Colby Stong | November 3, 2023



Tralokinumab met safety and efficacy endpoints for the treatment of moderate to severe atopic dermatitis in patients 65 years and older.

Tralokinumab is a safe and effective treatment for moderate to severe atopic dermatitis (AD) across age groups, including in older adults who often face unique treatment challenges due to comorbidities, polypharmacy, and increased safety risks, according to study results published in *JAMA Dermatology*.



Rethinking Cataract Surgery Expectations: Is Total Spectacle Independence Possible?

Shaunak K. Bakshi, MD,; Dagny Zhu, MD | June 26, 2023



Prior to cataract surgery, patients may wonder if total spectacle independence is possible. Now, with so many advancements in lens technologies, it might be worthwhile to reexamine that question. An undeniable truth in optics, known to ophthalmic scientists and surgeons alike, is that improvement in vision quantity

Bakshi SK. Rethinking cataract surgery expectations: is total spectacle independence possible? *Ophthalmology Advisor*. Published June 26, 2023. Accessed November 5, 2023. <https://www.opthalmologyadvisor.com/topics/cataracts/spectacle-independence-after-cataract-surgery-depends-on-careful-intraocular-lens-selectio/>; Stong C. Tralokinumab safe, effective for older adults with moderate to severe AD. *Ophthalmology Advisor*. Published November 3, 2023. Accessed November 5, 2023. <https://www.opthalmologyadvisor.com/general-medicine/tralokinumab-safe-effective-older-adults-moderate-to-severe-atopic-dermatitis/>



Medical Affairs

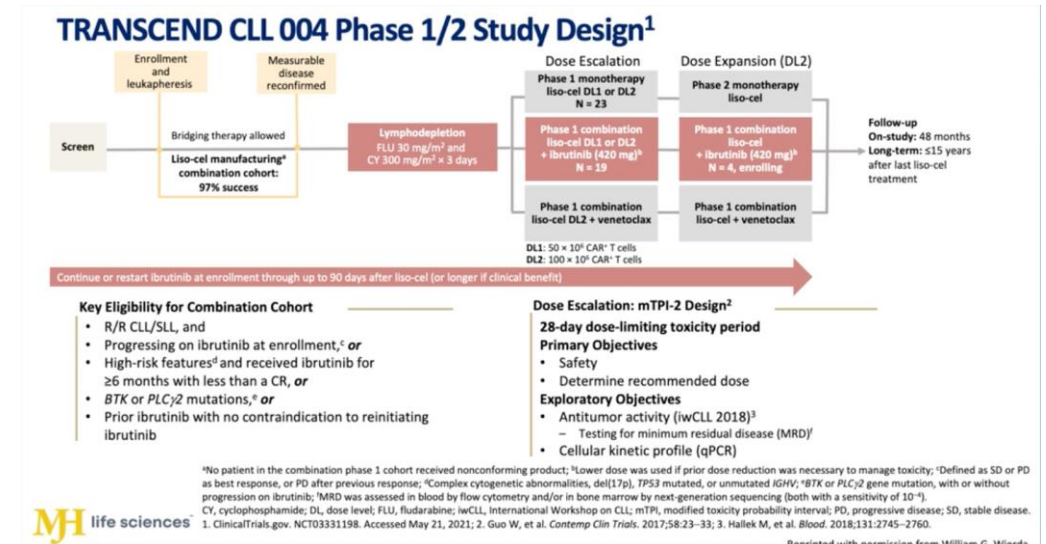
OPINIONS IN NON-TARGETABLE EARLY-STAGE NSCLC: AN INTERACTIVE LOCAL WORKSHOP
 TUESDAY, JULY 26, 2022 | 6:00-8:00 PM CT

Program Chair
Nathan Pennell, MD, PhD
 Cleveland Clinic

Program Chair
Jessica Donington, MD, MSCR
 University of Chicago Medicine

Program Chair
John Varlotto, MD
 Marshall Health

CURIO SCIENCE™ Join key opinion leaders and other medical oncologists, radiation oncologists, and thoracic surgeons for an in-depth discussion about the current and future treatment paradigms for Non-Targetable Early-Stage NSCLC.

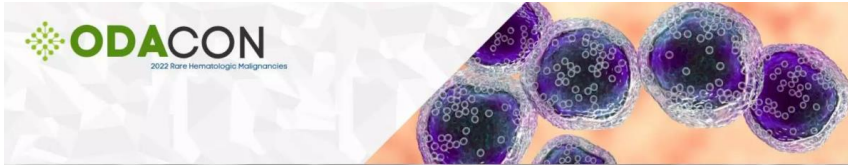


Note: This image is from a webinar rather than a medical affairs slide deck. Medical affairs tools are typically proprietary and confidential. However, this image provides an approximation of what the content may look like.

@n8pennell. Excited to moderate an interactive virtual workshop focused on the current and future treatment paradigms for Non-Targetable Early Stage NSCLC on Tuesday, July 26, 2022. Please join me and my colleagues for this Workshop by registering via: workshops@curio-science.com #LCSM. July 12, 2022. Accessed November 5, 2023.
<https://twitter.com/n8pennell/status/1546902176215273473?cxt=HHwWgsC4uavV2fcqAAAA>; Wierda WG. Rapid readouts: phase 1 cohort of TRANSCEND-CLL-004 study. *OnLive*. Published October 21, 2021. Accessed November 14, 2021. https://www.onlive.com/view/phase-1-cohort-of-transcend-cll-004-study?utm_source=website&utm_medium=dynamic_content&utm_campaign=in_feed_unit



Continuing Medical Education

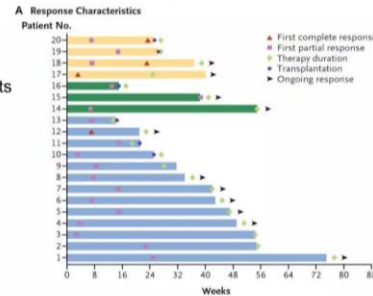


Improving Outcomes in Hodgkin Lymphoma

Louis F. Diehl, MD
Professor of Medicine
Duke University Hospital

(2) Checkpoint Inhibitors Effective in R/R HL Nivolumab in Relapsed/Refractory Hodgkin Lymphoma

- 23 patients
- Nivolumab 3 mg/kg every 2 weeks
- Most common drug-related adverse events were rash and decreased platelet count

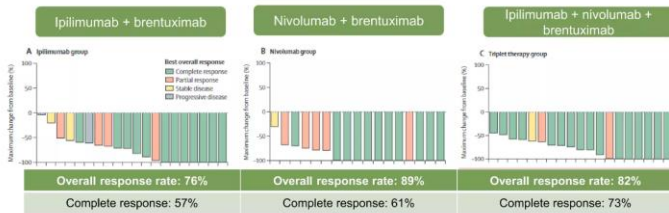


	Percentage
nse	87%
ponse	17%
ise	70%
e	13%

igous stem cell transplant.

Yellow: ASCT fail; brentuximab vedotin fail
Green: No ASCT; brentuximab vedotin fail
Blue: no brentuximab vedotin

(6) Ipilimumab, Nivolumab, and Brentuximab Combination Therapies Patients With Relapsed/Refractory Hodgkin Lymphoma



- 2 lethal adverse events: treatment-related grade 5 pneumonitis (3%)
- Grade 3/4 treatment-related events (38%), including rash (13%); colitis, gastritis, pancreatitis and arthritis, and diabetic ketoacidosis reported, each occurring in 1 patient (2%)

Diehl et al., 2020.

Diehl L. Improving outcomes in Hodgkin lymphoma. i3Health CME activity. i3Health. February 15, 2022. Accessed November 29, 2022. <https://www.i3health.com/odacon-hl#overview>; Watson K, Hamilton S. Incorporating long-acting MOUD formulations into clinical practice. Supplemental training. Chobanian & Avedisian School of Medicine. February 1, 2020. Accessed November 29, 2022. <https://www.scopeofpain.org/supplemental-training/expanding-access-to-medications-for-opioid-use-disorder/module-4/>

Module 4

Incorporating Long-Acting MOUD Formulations Into Clinical Practice

Kristin Wason, MSN, NP-C, CARN
Clinical Educator, Massachusetts OBAT TTA
Boston University School of Medicine | Boston Medical Center

Sebastian Hamilton, BSP, MBA, PharmD, RPh
Director, Outpatient Pharmacy Services
Boston Medical Center

CLICK FOR
Module 4 of 4



Needs Assessments

EDUCATIONAL ANALYSIS

Gap #1: Clinicians may be unaware of the current guidelines for the management of asthma exacerbations in the primary care setting

Learning Objective #1: Describe the current guidelines for the management of asthma exacerbations and assess the efficacy of empiric antibiotic therapy during treatment

According to the Global Initiative for Asthma (GINA), an asthma exacerbation is defined as a “change from the patient’s usual status that is sufficient to require a change in treatment.”⁹ In current treatment guidelines, GINA indicates an objective assessment of lung function, controlled oxygen administration, inhaled SABA therapy, and systemic corticosteroid administration.⁸ Adjunctive treatment with intravenous magnesium sulfate or a low-density helium oxygen mixture should be used in severe cases unresponsive to treatment.¹⁰ After treating hypoxemia and reducing airway inflammation, clinicians should monitor the response to treatment with repeat measurement of lung function, physical examinations, and pulse oximetry. Upon discharge from the hospital, patients should receive SABA, oral corticosteroids, inhaled corticosteroids, referral to follow-up care, review of inhaler technique, and environmental control measures, if needed.¹⁰

According to studies, there is a strong correlation between guideline adherence and reduced risk of hospitalization.¹¹ However, evidence demonstrates limited adherence to guidelines and variation in acute and chronic care in many hospitals nationwide.⁸ This is most notable with regards to the use of empiric antibiotics during acute asthma exacerbations.⁸ According to GINA, it is not appropriate to prescribe antibiotics routinely for asthma exacerbations.⁹ Although bacterial infections can cause exacerbations of asthma, the frequency of this happening is small. Moreover, antibiotics should not be prescribed in exacerbation cases unless there are clear signs, symptoms, and laboratory evidence suggesting a bacterial infection is present.²

A recent national survey conducted at 577 hospitals in the United States found that 58.2% of patients hospitalized for asthma exacerbations received empiric antibiotic therapy.¹² Likewise, approximately 18% to 22% of patients discharged from EDs for asthma last year received a prescription for an antibiotic. Researchers concluded that inappropriate antibiotic use in these instances was due to several factors, such as difficulty differentiating bacterial infections from non-bacterial infections, difficulty differentiating asthma from chronic obstructive pulmonary disease in the acute care setting, and knowledge gaps regarding the benefits of antibiotic therapy.¹³

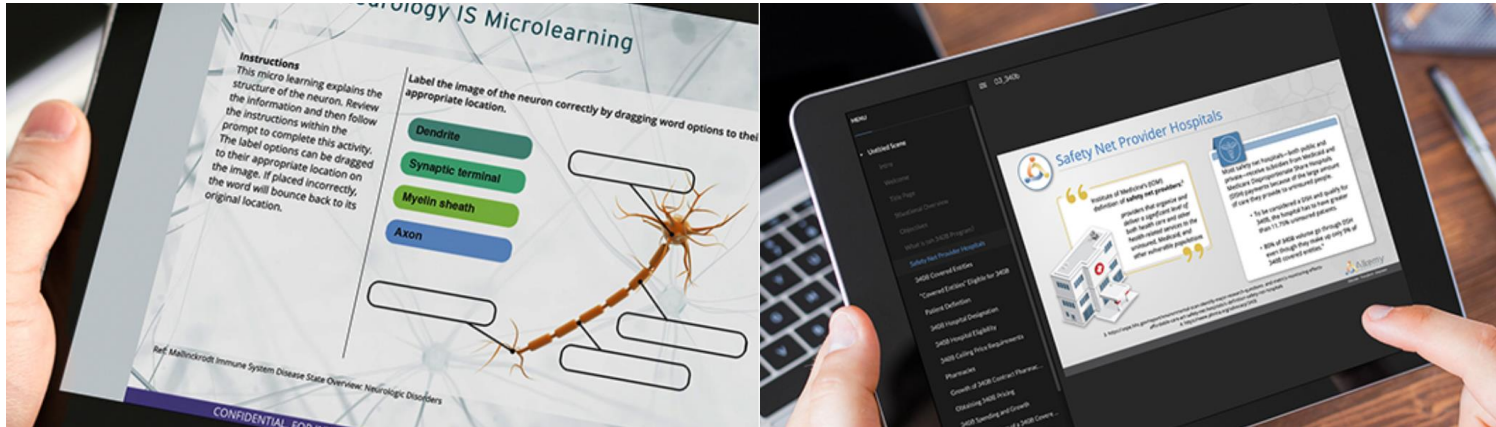
Another study, consisting of nearly 20,000 patients throughout more than 500 hospitals in the United States, determined that antibiotic use in the first 2 days of hospitalization for asthma was common (44%).⁸ Additionally, they found that antibiotic use was not associated with better outcomes for patients. In fact, they stated that the use of empiric antibiotics increased hospital length of stay, hospital costs, and antibiotic-related diarrhea risk.⁸ Similarly, another study of 681 adults and children hospitalized for asthma, found limited evidence that treatment with antibiotics improved symptoms or lung function tests compared to treatment without antibiotics.²



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Disease State

Self-Check

The Greek physician **Aretaeus of Cappadocia** (AD 81-138) is credited with introducing the term *diabetes* and with giving the earliest, clear description of the disease.

1. Fill in the blanks for each sentence.

The kidneys maintain the proper balance of _____.

The kidneys secrete the hormones _____ production, respectively.

The kidneys carry out enzymatic reactions necessary for normal _____ formation.

The kidneys carry out _____.

2. Which of the following describes the renin-angiotensin-aldosterone system is activated?

- Renin is released by juxtaglomerular cells.
- Renin is released by juxtaglomerular cells.
- ACE converts angiotensin I to angiotensin II.
- Atrial natriuretic peptide binds to its receptor.

CASE STUDY: Revisit

During the discussion the surgeon identified confluent lesions, a resection was performed by a medical oncologist, alternative treatments were considered. Signal transduction inhibitors were not considered as the treatment.

Activated platelets

Alkemy Partners. Accessed August 2020. <https://alkemypartners.com/>; What we do. Red Nucleus. Accessed November 14, 2021. <https://www.rednucleus.com/whatwedo-learning-and-development.html>

Medical Copywriting

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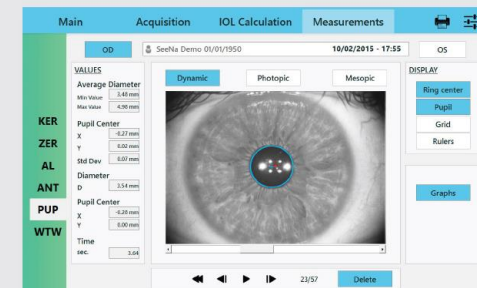
Corneal Aberrometry (Zernike)

Zernike analysis of the topographic data provides important information on spherical aberrations and higher-order aberrations to aid in lens selection and help surgeons set appropriate expectations regarding visual acuity after surgery.



Pupillometry

SeeNa™ measures Kappa decentration in both photopic and mesopic conditions to assist in the pre-surgical evaluation of patients considering multifocal IOLs.



Patient Education

NCCN National Comprehensive Cancer Network® 2022

Patient Webinar Thyroid Cancer

Know What Your
Doctors Know



Thyroid cancer: Who is affected?

- In 2022 there will be ~43,800 new cases of thyroid cancer and ~2,230 deaths
- The median age of thyroid cancer diagnosis is 51 years but it occurs across the age spectrum and is the most common cancer in patients ages 16-33 years
- 75% of all thyroid cancers occur in women

Estimated Number of US Cancer Survivors by site

Site	Female
Breast	4,055,770
Uterine corpus	891,560
Thyroid	823,800
Melanoma of the skin	713,790
Colon & rectum	710,670
Non-Hodgkin lymphoma	394,180
Lung & bronchus	367,570
Uterine cervix	300,240
Ovary	246,940
Kidney & renal pelvis	230,960
All sites	9,738,900

NCCN GUIDELINES FOR PATIENTS® 2022

Thyroid Cancer

1 Thyroid cancer basics

The thyroid

Several different types of cancer can start in the thyroid gland. Most are curable with the right treatment. Surgery is recommended for most thyroid cancers.

metabolism (how fast food becomes fuel for your body).

The two main hormones made by the thyroid are thyroxine (T4) and triiodothyronine (T3). Together, these are often referred to simply "thyroid hormone." The thyroid uses a mix from your diet called iodine to produce these hormones. Certain foods and iodized salt contain iodine.

The thyroid

The thyroid is a butterfly-shaped gland in the front of the neck, below the Adam's apple. It has two lobes, a right and a left. A thin piece of tissue called the isthmus connects the two lobes.

There are four pea-sized glands on the back of the thyroid gland. These are known as the parathyroid glands. They control the amount of calcium in your bloodstream.

The thyroid makes substances called hormones that are essential for the body to function properly. These hormones circulate in the blood and help regulate body temperature, blood pressure, heart rate, weight, and

Thyroid nodules
Thyroid nodules are small, often round areas of abnormal growth within the thyroid gland. Most are not cancerous. Very small nodules usually cannot be seen or felt, but

1 Thyroid cancer basics

Treatments

This imaging can be done using small doses of iodine-131 or a similar form of radioactive iodine called iodine-123. A whole-body RAI scan is often done when thyroid hormone replacement therapy is paused. If stopping thyroid hormone is not recommended for you, there is another option for doing the scan. A medication known as thyrotropin alfa (Thyrogen) can be used. Thyrogen activates iodine uptake so that hormone replacement with levothyroxine can be continued during imaging and therapy.

follicular cancers. Anaplastic thyroid cancer, in contrast, is almost always treated with radiation therapy.

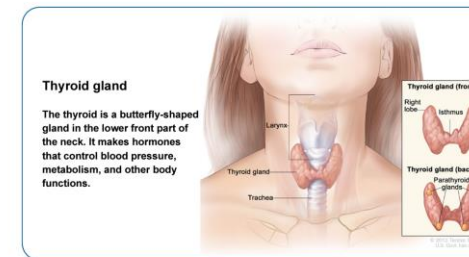
Radiation therapy may be used for thyroid cancer that cannot be removed with surgery and does not respond to RAI therapy. Radiation therapy can also relieve symptoms caused by cancer. For thyroid cancer that has spread, this could include difficulty or pain swallowing, loss of your voice, or pain or stiffness in your neck. Additionally, radiation may also be used in instances where the cancer has spread to another organ, such as the lungs or brain, to stop the cancer from growing in that specific area.

Radiation therapy

Radiation therapy uses high-energy X-rays or particles to destroy small areas of cancer. In the treatment of thyroid cancer, radiation is given using a large machine outside the body. This is called external beam radiation therapy (EBRT).

You will first have a planning session called a simulation. You will be placed in the treatment position and a CT scan or other type of scan will be done. The CT scan images will be used to make a radiation plan specifically tailored to your body and cancer. The plan will specify the

The use of radiation therapy differs by thyroid cancer type. It is rarely used for papillary and



Thyroid gland

The thyroid is a butterfly-shaped gland in the lower front part of the neck. It makes hormones that control blood pressure, metabolism, and other body functions.



NCCN Guidelines for Patients®
Thyroid Cancer, 2022

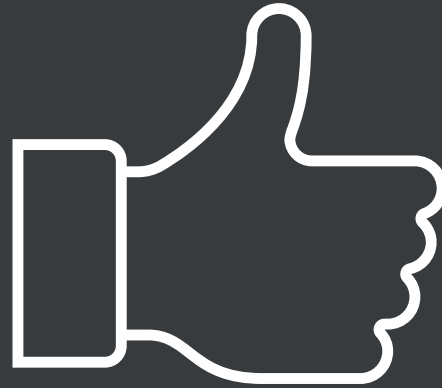
Radiation therapy

Radiation therapy uses high-energy radiation from x-rays, gamma rays, protons, and other sources to kill cancer cells and shrink tumors. It is also used to treat pain caused by cancers.

NCCN Guidelines for Patients®
Thyroid Cancer, 2022

Thyroid cancer: know what your doctors know. National Comprehensive Cancer Network patient webinar. August 29, 2022. Accessed November 29, 2022. <https://www.nccn.org/patientresources/patient-resources/patient-webinars/thyroid-cancer>; National Comprehensive Cancer Network. NCCN guidelines for patients: thyroid cancer v2022.. Accessed November 29, 2022. <https://www.nccn.org/patientresources/patient-resources/guidelines-for-patients/guidelines-for-patients-details?patientGuidelineId=40>





Skills of a Medical Writer

Scientific Skills

Data analysis & interpretation

Statistics

Anatomy & physiology

Medical terminology

Drug development

Pharmacology

Clinical trials/study design

Literature search

Discernment of reliable resources

Reading comprehension



Writing Skills

Grammar

Nomenclature & usage

Style & formatting guidelines

Referencing

Data visualization

Clarity

Flow

Publication/approval processes



Professional Skills

Attention to detail

Project management

Independence

Professional etiquette

Conflict management

Ethics

Taking criticism

Giving constructive feedback

Guiding clients

Accounting



Activity

State the key message from the data set

	Study Drug N=93	Control Drug N=95
Median follow-up, months	9.2	8.9
6-month overall survival, %	73	54
Adverse events, n (%)	84 (90.3)	72 (75.8)



Activity

Translate the technical statement into plain language

“Receptor binding is a crucial step for virion internalization into host cells, and the interaction between the [envelope] protein and the host cell via a specific receptor would provide an important avenue for therapeutic intervention.”



Activity

Identify the typographical errors

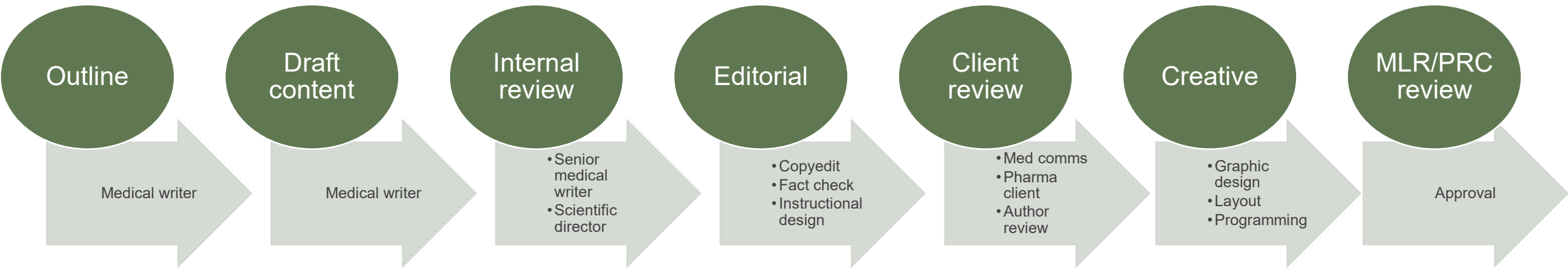
Adolescents (12–17 years), in the the study population experienced no long term affects from the study drug,





Development Process

Content Development



Med comms, medical communications; MLR, medical, legal, regulatory; PRC, promotional review committee



Project Team Members

Medical/Scientific	Client Services	Client Team	Other
Medical Writer	Account Director	Director	Instructional Designer
Medical Editor	Project Manager	Key Opinion Leader	Graphic Designer
Scientific Director		Medical Reviewer	Programmer
		Statistician	
		Scientist/Physician	
		Manuscript Author	
		Training Manager	



Know Your Audience



Physician

- Provides medical treatment for patients
- MD, DO
- May have specialized training in the disease state or could provide general care



Scientist (clinical or academic)

- Conducts clinical, preclinical, or bench research
- PhD, MD
- Specialized knowledge



Medical Science Liaison (MSL)

- Has complex discussion with health care providers regarding the research, data, and science for a pharmaceutical agent
- PhD, PharmD, or another advanced Degree
- Advanced knowledge of life sciences

DO, doctor of osteopathic medicine; MD, doctor of medicine; MSL, medical science liaison; PharmD, doctor of pharmacy; PhD, doctor of philosophy



Know Your Audience



Sales Representative

- Educates health care providers about a company's pharmaceutical product
- BA in business or BS in science
- May or may not have background in life sciences



Business Manager

- Manages business strategy, budgets and financial outcomes, client relationships, etc
- BA or other degree in business or related field
- Little to no background in life sciences



Patient or Patient Advocate

- Receives medical care for a disease or advocates for patients with a certain disease
- Variable education
- May have no background in life sciences or may be very knowledgeable about their disease of interest



What Can I Do Now to Prepare?

- 1 Build a writing portfolio**
Blogs, newsletters, review articles, manuscripts, grants, PowerPoint presentations, posters
- 2 Present**
Academic, community settings
- 3 Get feedback on your writing/communication**
Professors, peers, friends, family
- 4 Get training on resume, cover letter, and LinkedIn writing and interviewing**
- 5 Get involved**
CSU Ventures, MIP newsletter, Science outreach, professional development opportunities, AIA
- 6 Network**
Attend networking events and career symposiums; conduct informational interviews



Where Can I Find Medical Writing Jobs?



- Medical communications companies
- Medical education companies
- Pharmaceutical, biotech, or medical device companies
- Contract research organizations (CROs)
- Academic institutions
- Health care institutions
- Public health offices
- Government agencies
- Publishers
- Media outlets
- Private foundations
- Patient advocacy groups
- Professional associations



Med Comms Companies



Med Comms Companies



Med Comms Companies

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GROUP

AXON

Blue Sky
eLEARN 

 AQUINASlg
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Engage
R LEARNING
TRAINING THAT STICKS

FRONTLINE
MEDICAL COMMUNICATIONS
Featuring the **MDedge** network of brands

 APOLLO
MEDICAL COMMUNICATIONS

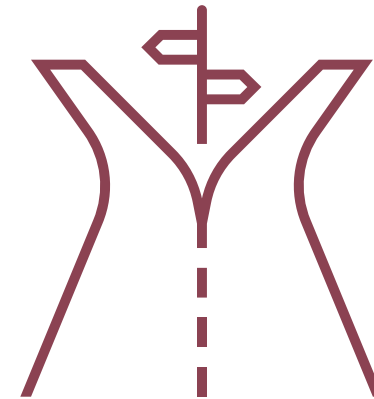
OMNI



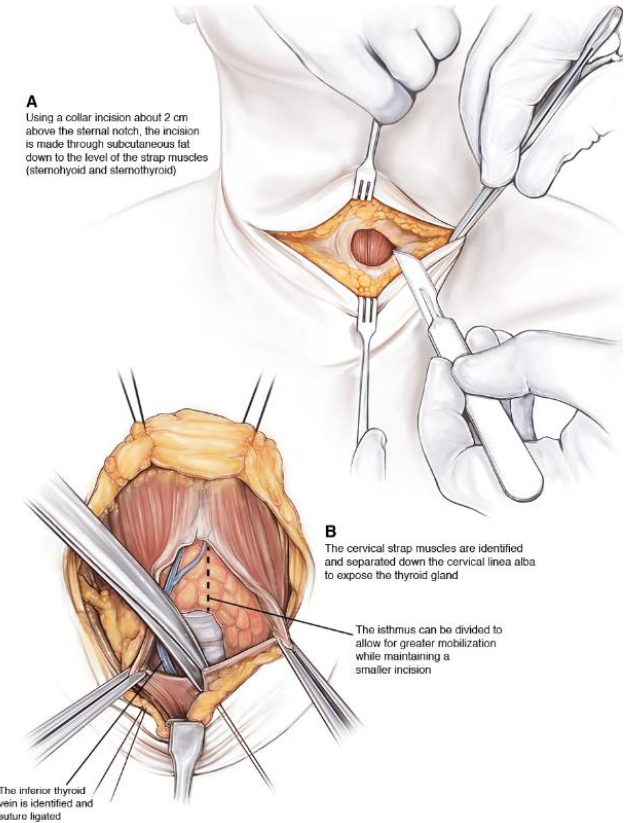
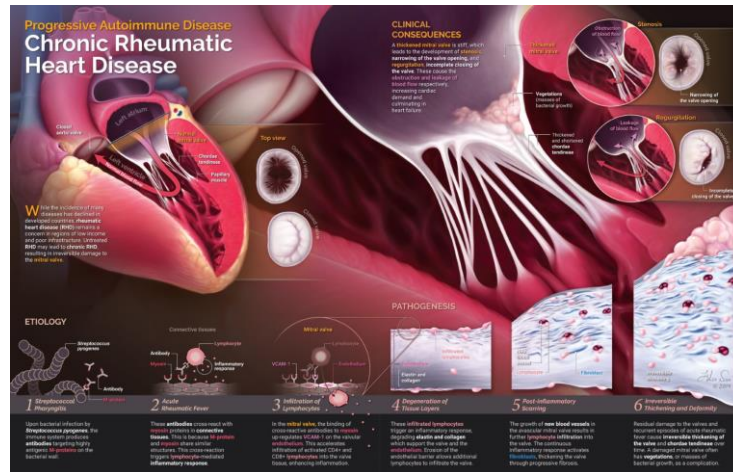
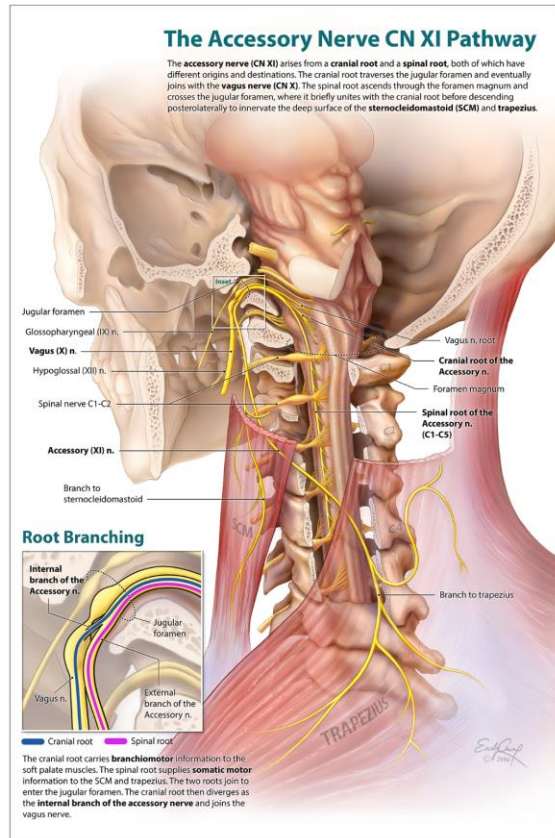
What If I Don't Like Writing?

Other careers in med comms include:

- Medical editor
- Medical illustrator/graphic designer
- Instructional designer
- Project manager
- Account director
- Programmer



Medical Illustration



Association of Medical Illustrators. View art & animations. Accessed November 5, 2023. <https://www.ami.org/medical-illustration/view-art-and-animations>





Additional Resources

Professional Societies



Professional Societies



Courses and Training

- 6weekcourse freelance medical writing course
- Prospology coaching for freelance medical writing
- RAPS courses for regulatory writing
- Duke University Regulatory Affairs Training Program (free)
- Stanford science writing course
- University of Chicago medical writing certificate
- AMWA Essential Skills certificate
- Global's Clinical Evaluation Report (CER) Writing Internship Program
- Whitsell Innovations regulatory writing internship
- Certified CME Professional (CCMEP) certification
- Introduction to the Principles and Practice of Clinical Research

AMWA, American Medical Writers Association; CER, clinical evaluation report; med comms, medical communications; RAPS, Regulatory Affairs Professionals Society.



Networking

- AMWA Conference
- CMEPalooza Conference
- The Anthill
- AMWA Engage

AMWA, American Medical Writers Association; CME, continuing medical education.



Recruiters

- Barrington James
- Albion Rye Associates
- EPM Scientific
- Planet Pharma
- ALKU



Other Resources

- [AMWA Blog](#)
- [Types of Medical Writing](#)
- [How to Become a Medical Writer](#)
- [AMWA 2019 Salary Survey](#)
- [NetworkPharma](#) webinars and videos about medcomms
- [Medcomms Networking](#) YouTube channel
- [Health Writer Hub](#)
- [Writing tests](#) for med comms job interviews
- [Cheeky Scientist](#)
- [HittList](#) (email newsletter with job postings)



Other Resources

- [International Journal of Medical Education](#)
- [Accreditation Council for Continuing Medical Education](#)
- [Alliance for Continuing Education in the Health Professions](#)
- [FDA Office of Prescription Drug Promotion](#)
- [Medical Writers Speak](#) podcast
- [Pharmaceutical Marketers Directory](#)
- [Writer's Market](#)
- [The Mighty Marketer](#)



