

Nicholas S. Phillips, MD, PhD
 Department of Epidemiology and Cancer Control
 St. Jude Children's Research Hospital
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1. **Current Position at St. Jude**
 Faculty Research Associate 2020 - Present
 Department of Epidemiology and Cancer Control
 St. Jude Children's Research Hospital
 Memphis, TN

2. **Education and Training**
 AS, General Science, Pellissippi State Technical Community College 1996 - 1998
 BA, Biochemistry, Maryville College 1998 - 2000
 MD, Medicine, University of Tennessee Health Science Center 2000 - 2009
 PhD, Biomedical Engineering, University of Tennessee Health Science Center 2002 - 2009
 Internship, Pediatrics, University of Tennessee Health Science Center 2010 - 2011
 Residency, Child Neurology, University of Tennessee Health Science Center 2009 - 2013
 Clinical Fellowship, Cancer Survivorship, St. Jude Children's Research Hospital 2016 - 2017
 Research Fellowship, Neuroscience, St. Jude Children's Research Hospital 2017 - 2020

3. **Key Accomplishments Summary**
 International Cognition and Cancer Task Force Young Investigator Award 2018
 University of Tennessee Outstanding Student Award in Neurology Clerkship 2009
 American Academy of Neurology Medical Student Prize in Neurology (monetary award) 2009
 LeQuire Award, Maryville College (monetary award) 2000
 Phi Theta Kappa Scholarship (2 years) 1998 - 2000
 All-Tennessee Academic Team 1997

4. **Professional Career**
 Medical Extern 2002 - 2005
 Department of Surgery
 University of Tennessee Health Science Center
 Memphis, TN

5. **Certifications and Licensure**
 Medical License (active) 2020-2023
 License #60465
 State of Tennessee

 DEA License (pending) 2020
 State of Tennessee

 Medical X-ray Operator-Limited Certification 1995 - 1999
 License #2855
 State of Tennessee

6. **Professional Memberships**
 Member, Student Surgical Society 2000 - 2004
 Chapter: University of Tennessee Health Science Center
 President, Student Surgical Society 2002 - 2003
 Chapter: University of Tennessee Health Science Center
 Member, American Society of Functional Neuroimaging 2003 - Present
 Student Member, American Academy of Pediatrics 2010 - 2013
 Student Member, American Academy of Neurology 2011 - Present
 Member, Children's Oncology Group 2016 - Present

Member, American Society of Clinical Oncology

2016 - Present

7. Editorial Board Appointments

Ad-Hoc Reviewer:

Acta Oncologica

Brain and Behavior

Cancer Epidemiology, Biomarkers & Prevention

8. Grant Review/Study Activities

Didactic training in grant development

Instructor: Kevin Krull

9. Institutional and Committee Assignments

Clinical Fellow's Counsel

2016 - 2017

St. Jude Children's Research Hospital

10. Formal Education/Teaching Activities

Molly Litten

2018 - 2019

St. Jude Summer Plus Fellow, Rhodes College

Role: Mentor

Current Position: Clinical Research Assistant, St. Jude Children's Research Hospital

Course Instructor, Suture Skills Lab (Graduate Level)

2002 - 2009

Department of Surgery

University of Tennessee Health Science Center

Course Instructor, Clinical Skills Lab (Graduate Level)

2008 - 2009

Department of Medicine

University of Tennessee Health Science Center

11. Grant Awards

A. Pending Grants

K22 CA248708-01

PhillipsN (PI)

01/01/2020 - 12/31/2023

Cerebral Perfusion in Survivors of Hodgkin Lymphoma

National Cancer Institute

Role: Principal Investigator

Requested Amount: \$485,962.00

Effort: 75%

B. Completed Grants

T32 CA225590

04/01/2018 - 03/31/2020

Training in Pediatric Cancer Survivorship Outcomes and Interventions

Role: Scholar (PI: Kevin Krull)

Effort: 100%

NIH Medical Student Research Fellowship

Analysis of Patterns of Neuronal Activity During a Continuous Performance Task

Award: \$3,500.00

Role: Scholar

AHA Health Science Fellowship in Vascular Biology

Feasibility of Using Arterial Spin Labeling Imaging in Children with Sickle Cell Disease

Award: \$4,500.00

Role: Scholar

12. Clinical Trials Involvement

Transcranial Direct Current Stimulation of the Temporal Cortex in Survivors of Childhood ALL
St. Jude Children's Research Hospital
Role: Principal Investigator

Neurostimulation in Adult Survivors of Childhood Acute Lymphoblastic Leukemia
St. Jude Children's Research Hospital
Role: Co-Investigator

Safety, Feasibility and Preliminary Efficacy of Intranasal Oxytocin and Transcranial Direct Current Stimulation (tDCS) for Facial Affect Recognition in Survivors of Medulloblastoma
St. Jude Children's Research Hospital
Role: Co-Investigator

Neurocognitive Impairment in Childhood Pediatric Leukemia Survivors Related to Dexamethasone Exposure
St. Jude Children's Research Hospital
Role: Co-Investigator

13. Publication Record

A. Peer Reviewed Publications

i. Original Research Articles

1. **Phillips NS**, Cheung YT, Glass JO, Scoggins MA, Lui W, Ogg RJ, Mulrooney DA, Pui CH, Robison LL, Reddick WE, Hudson MM, Krull KR. Neuroanatomical abnormalities related to dexamethasone exposure in survivors of childhood Acute Lymphoblastic Leukemia. *Pediatr Blood Cancer*. 2020 Mar;67(3):e27968. PubMed PMID: 31407461. Role: First author
2. **Phillips NS**, Hillenbrand CM, Mitrea BG, Yan J, Li C, Scoggins MA, Merchant TE, Armstrong GT, Srivastava DK, Pui CH, Robison LL, Hudson MM, Krull KR, Sabin ND. Cerebral microbleeds in adult survivors of childhood Acute Lymphoblastic Leukemia treated with cranial radiation. *Sci Reports*. 2020 Jan 20;10(1):692. PubMed PMID: 31959839. Role: First author
3. **Phillips NS**, Howell CR, Lanctot JQ, Partin RE, Pui CH, Hudson MM, Robison LL, Krull KR, Ness KK. Physical fitness and neurocognitive outcomes in adult survivors of childhood Acute Lymphoblastic Leukemia: A report from the St. Jude Lifetime Cohort. *Cancer*. 2020 Feb 1;126(3):640-648. PubMed PMID: 31631333. Role: First author
4. Krull K, Li C, **Phillips NS**, Cheung YT, Brinkman T, Wilson C, Armstrong G, Khan R, Merchant T, Sabin N, Srivastava D, Pui CH, Robison L, Hudson M, Sklar C, Chemaitilly W. Growth hormone deficiency and neurocognitive function in adult survivors of childhood Acute Lymphoblastic Leukemia. *Cancer*. 2019 May 15;125(10):1748-1755. PubMed PMID: 30690723.
5. Kesler SR, Ogg RJ, Reddick WE, **Phillips NS**, Scoggins MA, Glass JO, Cheung YT, Pui CH, Robison LL, Hudson MM, Krull KR. Brain Network connectivity and executive function in long-term survivors of childhood Acute Lymphoblastic Leukemia. *Brain Connect*. 2018 Aug;8(6):333-342. PubMed PMID: 29936880.
6. Wang , Wilson CL, Easton J, Thrasher A, Mulder H, Liu Q, Hedges DJ, Wang S, Rusch MC, Edmonson MN, Levy S, Lanctot JQ, Caron E, Shelton K, Currie K, Lear M, Patel A, Rosencrance C, Shao Y, Vadodaria B, Yergeau D, Sapkota Y, Brooke RJ, Moon W, Rampersaud E, Ma X, Chang TC, Rice SV, Pepper C, Zhou X, Chen X, Chen W, Jones A, Boone B, Ehrhardt MJ, Krasin MJ, Howell RM, **Phillips NS**, Lewis C, Srivastava D, Pui CH, Kesserwan CA, Wu G, Nichols KE, Downing JR, Hudson MM, Yasui Y, Robison LL, Zhang J. Genetic risk for subsequent neoplasms among long-term survivors of childhood cancer. *J Clin Oncol*. 2018 Jul 10;36(20):2078-2087. PubMed PMID: 29847298.
7. Harrigan RL, Yvernault BC, Boyd BD, Damon SM, Gibney KD, Conrad BN, **Phillips NS**, Rogers

BP, Gao Y, Landman BA. Vanderbilt University Institute of Imaging Science Center for Computational Imaging XNAT: A multimodal data archive and processing environment. *Neuroimage*. 2016 Jan 1;124(Pt B):1097-1101. PubMed PMID: 25988229.

8. Barb SM, Rodriguez-Galindo C, Wilson MW, **Phillips NS**, Zou P, Scoggins MA, Li Y, Qaddoumi I, Helton JK, Bikhazi G, Haik G, Ogg RJ. Functional neuroimaging to characterize visual system development in children with retinoblastoma. *Invest Ophthalmol Vis Sci*. 2011 Apr 20;52(5):2619-26. PubMed PMID: 21245407.
9. Morris EB, **Phillips NS**, Laningham FH, Patay Z, Gajjar A, Wallace D, Boop F, Sanford R, Ness KK, Ogg RJ. Proximal dentatohalamocortical tract involvement in posterior fossa syndrome. *Brain*. 2009 Nov;132(Pt 11):3087-95. PubMed PMID: 19805491.
10. Helton KJ, Weeks JK, **Phillips NS**, Zou P, Kun LE, Khan RB, Gajjar A, Fouladi M, Broniscer A, Boop FA, Li CS, Ogg RJ. Diffusion tensor imaging of brainstem tumors: axonal degeneration of motor and sensory tracts. *JNeurosurg Pediatr*. 2008 Apr;1(4):270-276. PubMed PMID: 18377301.
11. Helton KJ, **Phillips NS**, Khan RB, Boop FA, Sanford RA, Zou P, Li CS, Langston JW, Ogg RJ. Diffusion tensor imaging of tract involvement in children with pontine tumors. *AJNR Am J Neuroradiol*. 2006 Apr;27(4):786-793. PubMed PMID: 16611765.
12. **Phillips NS**, Helton, KJ, Gajjar A, Boop FA, Sanford, RA, & Ogg RJ. Diffusion tensor imaging of intraaxial tumors at the cervicomedullary and pontomedullary junctions. Report of two cases. *J Neurosurg*. 2005 Dec;103(6 Suppl):557-62. PubMed PMID: 16383256. Role: First author
13. Ries ML, Boop FA, Griebel ML, Zou P, **Phillips NS**, Johnson SC, Williams JP, Helton KJ, Ogg RJ. Functional MRI and Wada determination of language lateralization: A case of crossed dominance. *Epilepsia*. 2004 Jan;45(1):85-89. PubMed PMID: 14692913.
14. Banerjee P, Rossi MG, Anghelescu DL, Liu W, Breazeale AM, Reddick WE, Glass JO, **Phillips NS**, Jacola LM, Sabin ND, Inaba H, Srivastava DK, Robison LL, Pui CH, Hudson MM, Krull KR. Association between anesthesia exposure and neurocognitive and neuroimaging outcomes in long-term survivors of childhood Acute Lymphoblastic Leukemia. *JAMA Oncol*. 2019 Jun 20;5(10). PubMed PMID: 31219514.

ii. Original Research Articles Submitted for Review

1. **Phillips NS**, Kesler SR, Scoggins M, Glass JO, Cheung YT, Liu W, Banerjee P, Ogg RJ, Pui CH, Robison LL, Reddick WE, Hudson MM, Krull KR. Connectivity of the cerebello-thalamo-cortical pathway in survivors of childhood leukemia treated with chemotherapy only. Submitted for review.
2. **Phillips NS**, Khan RB, Zabrowski J, Li C, Brinkman TM, Srivastava DK, Robison LL, Hudson MM, Krull KR, Sadighi ZS. Impact of seizure morbidity on neurocognitive outcome, quality of life, and social attainment in adult survivors of childhood cancer: A report from the St. Jude Lifetime Cohort Study. Submitted for review.
3. Varedi M, Lu L, **Phillips NS**, Partin R, Brinkman TM, Armstrong GT, Chase E, Khan RJ, Powell D, McKenna RF, Robison LL, Hudson MM, Ness KK. Balance impairment in survivors of pediatric brain tumors: risk factors and associated limitations. Submitted for review.

iii. Abstracts

1. Zou P, **Phillips N**, Ogg R. Retrospective event-related analysis of a block-designed fMRI CPT experiment. ISMRM Annual Meeting. Honolulu, HI. May 18-24, 2002.
2. **Phillips NS**, Helton K, Sanford R, Gajjar A, Tekautz T, Zou P, Langston JW, Ogg R. Diffusion tensor imaging analysis of the growth pattern of an intraxial tumor at the cervicomedullary

- junction. ASNR Annual Meeting. Seattle, WA. June 7-11, 2004. Role: First author. *Proc AJNR. 2004;462.*
3. Reddick WE, Glass JO, Jain JJ, **Phillips NS**, Ji Q, Ogg RJ, Merchant TE, Gajjar A. Evaluating the impact of cancer therapy on the developing brain. ISMRM Scientific Meeting & Exhibition. Seattle, WA. May 6-12, 2006. *ISMRM. 2006;316.*
 4. Barb S, Rodriguez-Galindo C, **Phillips N**, Zou P, Wilson M, Haik B, Ogg R. Visual system development in children with retinoblastoma. Organization of Human Brain Mapping. Florence, Italian Republic. June 11-15, 2006. *Neuroimage. 2006;13(1):1-242.*
 5. Scoggins MA, Barb SM, Rodriguez-Galindo C, Wilson MW, **Phillips NS**, Zou P, Li Timei, Qaddoumi I, Helton KJ, Bikhazi G, Haik BG, Ogg RJ. Functional connectivity in children with retinoblastoma. Memphis Biolmaging Symposium (MemBIS). Memphis, TN. November 4-5, 2010.
 6. **Phillips N**, Clarke D, Perkins FF, Ogg RJ, McMannis M. Bilateral asymmetries in the maximal activation of same subjects SSEP's. American Epilepsy Society Annual Meeting. Baltimore, MD. December 1-5, 2011. Role: First author. *Epilepsy Curr. 2011;11(1):211.*
 7. **Phillips N**, Choudrhi A, Wheless J, Shah N, Patay Z. Evidence of Morphologic Differences in Children with Down's syndrome Who Develop Infantile Spasms. American Epilepsy Society Annual Meeting. Washington, DC. December 5-9, 2013. Role: First author. *Epilepsy Curr. 2013;Jan-Feb;13(1):400.*
 8. **Phillips NS**, Howell C, Hudson MM, Robison LL, Krull KR, Ness KK. Associations between fitness and neurocognitive outcomes in adult survivors of Childhood Acute Lymphoblastic Leukemia in the St. Jude Lifetime Cohort Study. Abstract #PD-032, PD-607. SIOP Annual Meeting. Kyoto, Japan. November 16-19, 2018. Role: First author. *Pediatr Blood Cancer. 2018 Nov;65 Suppl 2(Suppl 2):e27455.*
 9. Kesler SR, **Phillips NS**, Rao V, Kmetz L, Vela R, Medick S, Krull KR. Functional and effective connectivity of default mode network is disrupted in chemotherapy-treated patients with breast cancer. Cognitive Neuroscience Society Annual Meeting. May 2-5, 2020.
 10. Rodwin RL, Lu L, Srivastava DK, Brinkman TM, Krull KR, Armstrong GT, Khan RB, **Phillips NS**, Merchant TE, Gajjar AJ, Robison LL, Hudson MM, Kadan-Lottick NS, Ness KK. Peripheral motor and sensory neuropathy in survivors of childhood central nervous system (CNS) tumors in the St. Jude Lifetime (SJLIFE) cohort. Abstract # 10549. 2020 ASCO Virtual Scientific Program. May 29-31, 2020.

14. Presentations

a. Oral Presentations

1. Helton KJ, Ogg R, **Phillips NS**. Diffusion tensor imaging analysis of tract involvement of Diffuse Brainstem Gliomas in children, with neurological correlation. Southeastern Neuroradiological Society Annual Meeting. Amelia Island, FL. October 23-25, 2003. *Best Paper Award presentation*
2. Reis M, Boop F, Zou P, **Phillips N**, Johnson S, Ogg R. fMRI and WADA testing for language lateralization: A case of crossed dominance. INS Annual Meeting. 2003.
3. **Phillips N**, Helton KJ, Sanford RA, Gajjar A, Tekavtz T, Boop FA, Zou P, Langston JW, Ogg R. Diffusion tensor imaging analysis of the growth pattern of an intra-axial tumor at the cervicomedullary junction. North American Skull Base Society Annual Meeting. New Orleans, LA. February 11-17, 2004. Role: Speaker, first author
4. Helton KJ, **Phillips N**, Khan RB, Boop FA, Sanford A, Ogg R. Diffusion tensor imaging in Pediatric Brainstem Glioma (BSG) patients, with neurologic correlation. ASNR Annual Meeting. Seattle, WA.

June 7-11, 2004. *Proc AJNR*. 2004:7.

5. Helton KJ, **Phillips N**, Khan RB, Boop FA, Zou P, Langston J, Ogg R. Diffusion tensor imaging analysis of tract involvement of diffuse brainstem gliomas in children, with neurological correlation. Radiological Society of North America 90th Scientific Assembly and Annual Meeting. November 28-December 3, 2004. Plenary presentation.
6. Zou P, **Phillips N**, Zhang Y, Mulhern RK, Merchant TE, Gajjar A, Ogg RJ. BOLD response in pediatric brain tumor patients during treatment. ISMRM Scientific Meeting & Exhibition. Miami Beach, FL. May 7-13, 2005.
7. Helton KJ, Weeks J, **Phillips N**, Zou P, Li C, Kun L, Khan R, Gajjar A, Ogg RJ. Tractography in pediatric brain stem glioma patients: Wallerian degeneration of corticospinal and sensory pathways. ASNR Annual Meeting. Toronto, Canada. May 23-27, 2005.
8. Morris B, Jacobs-Levin A, **Phillips N**. Postoperative mutism in children with infratentorial tumors. St. Jude Children's Research Hospital. Cure4Kids Seminar. Memphis, TN. 2007. Role: Speaker
9. **Phillips NS**, Glass JO, Scoggins M, Cheung YT, Liu W, Ogg RJ, Mulrooney D, Pui CH, Robison LL, Reddick WE, Hudson MM, Krull KR. Subcortical brain volumes and neurocognitive function in survivors of childhood acute lymphoblastic leukemia treated with chemotherapy-only. (a) ASCO Annual Meeting. June 2-6, 2017. Role: Speaker, first author. (b) 15th International Conference on Long-Term Complications of Treatment of Children and Adolescents for Cancer. Atlanta, GA. June 15-17, 2017. Role: Speaker, first author
10. Banerjee P, Rossi MG, Angheliescu DL, Mayhew AA, Reger K, **Phillips NS**, Reddick WE, Glass JO, Jacola LM, Robison LL, Pui CH, Hudson MM, Krull KR. Anesthesia exposure, neurocognitive function, and neuroimaging outcomes in long-term survivors of childhood acute lymphoblastic leukemia. INS Annual Meeting. Washington, DC. February 14-17, 2018. Paper presentation.
11. Banerjee P, Rossi MG, Angheliescu DL, Liu W, Mayhew A, Reger K, Srivastava D, **Phillips N**, Reddick WE, Glass JO, Jacola LM, Robison LL, Pui CH, Hudson MM, Krull KR. Neurocognitive and neuroimaging outcomes of anesthesia exposure in long-term survivors of childhood acute lymphoblastic leukemia. ICCTF Cognition and Cancer Biennial Conference. Sydney, Commonwealth of Australia. April 9-10, 2018.
12. **Phillips NS**, Glass JO, Banerjee P, Scoggins M, Cheung YT, Ogg RJ, Pui CH, Hudson MM, Robison LL, Krull KR. Cerebellar volumes and neurocognitive outcomes in survivors of childhood acute lymphoblastic leukemia treated with chemotherapy alone. ICCTF Cognition and Cancer Biennial Conference. Sydney, Commonwealth of Australia. April 9-10, 2018. Role: Speaker, first author
13. **Phillips NS**, Howell CR, Pui CH, Hudson MM, Robison LL, Krull KR, Ness KK. Associations between fitness and neurocognitive outcomes in adult survivors of childhood Acute Lymphoblastic Leukemia: A St. Jude Lifetime Cohort Study. SIOP Annual Meeting. Lyon, French Republic. October 23-26, 2019. Role: Presenter, first author.