Impact of Neuroscience Nurses

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Neuroscience Nursing History

- ▶ The world's first Neurological Institute The National Hospital in Queen's Square
- The Nursing and Care of the Nervous and the Insane published in 1889
 - Dr. Mills wrote, "in no class of cases is it more important for a nurse, caretaker, or companion to have good principles of action and clear notions of practice, than among patients suffering from nervous or mental afflictions."
- First post graduate course at the New York Neurological Institute 1910
- First specialized nursing unit for care of neurosurgical patients established in 1923 at John Hopkins Hospital
- First American Association of Neuroscience Nurses meeting held in 1968
- First Neurocritical care units started to emerge in the 1970's
- First Neurological Nurse Certification 1978
- First Stroke Nurse Certification 2012

Specialized Stroke Units

- Stroke patients who receive organized inpatient (stroke unit) care are more likely to be alive, independent, and living at home one year after the stroke
 - benefits were independent of patient age, sex, initial stroke severity, or stroke type, and were most obvious in units based in a discrete stroke ward
- Across all stroke severities the increase in independent survivors is substantially greater than the increase in dependent survivors, and the net effect of stroke unit care appears to be to shift the distribution of all outcomes in a favorable direction

Neuroscience Certification



Certified Neuroscience Registered Nurse



Stroke Certified Registered Nurse



Impact on patient care

- SCRN door-to-alteplase times (46.2 mins) were significantly shorter than non-SCRN times (69.1 mins)
- For every 15 minutes reduction in door-toneedle time there was a 5% lower odds of mortality



2. Secondary analysis: modified Rankin Scale at discharge among IVT+EVT vs EVT-only group. were derived from the χ^2 of mRS 0 to 2 vs 3 to 6 for each DTN subgroup versus EVT-only group. DTN indicates do lovascular thrombectomy; IVT, intravenous thrombolytic therapy; and mRS, modified Rankin Scale. 2023 – Circulation - Shorter Door-to-Needle Times Are Associated With Better Outcomes After Intravenous Thrombolytic Therapy and Endovascular Thrombectomy for Acute Ischemic Stroke



Neurocritical Caring

 Treating neurologically ill patients with alcohol withdrawal

Delirium in the neuro patient

References:

- AKANO, E.O., OTITE, F.O. and CHATURVEDI, S., 2019. Alcohol withdrawal is associated with poorer outcome in acute ischemic stroke. *Neurology*, 93(21), pp. e1944-e1954.
- FANT, G.N. and LAKOMY, J.M., 2019. Timeliness of Nursing Care Delivered by Stroke Certified Registered Nurses as Compared to Non–Stroke Certified Registered Nurses to Hyperacute Stroke Patients. The Journal of neuroscience nursing, 51(1), pp. 54-59.
- FONAROW, G.C., SMITH, E.E., SAVER, J.L., REEVES, M.J., BHATT, D.L., GRAU-SEPULVEDA, M.V., OLSON, D.M., HERNANDEZ, A.F., PETERSON, E.D. and SCHWAMM, L.H., 2011. Timeliness of tissue-type plasminogen activator therapy in acute ischemic stroke: Patient characteristics, hospital factors, and outcomes associated with door-to-needle times within 60 minutes. *Circulation (New York, N.Y.)*, **123**(7), pp. 750-758.
- HICKEY, J.V., 2014. Honoring the past: A prologue for the future of neuroscience nursing. Surgical Neurology International, 5(Suppl 13), pp. S473-S474.
- HINKLE, J.L., ALEXANDER, S., AVANECEAN, D., BATTEN, J., BAUTISTA, C., HUNDT, B. and RHUDY, L., 2022. Research Priority Setting: The Current Landscape of Neuroscience Nursing Research. *The Journal of neuroscience nursing*, **54**(2), pp. 55-60.
- LANGHORNE, P., 1997. How do stroke units improve patient outcomes? A collaborative systematic review of the randomized trials. Stroke (1970), 28(11), pp. 2139-2144.
- LANGHORNE, P., LANGHORNE, P. and RAMACHANDRA, S., 2020. Organised inpatient (stroke unit) care for stroke: network meta-analysis. *Cochrane database of systematic reviews*, **2020**(4), pp. CD000197.
- LAWSON, T.N., BALAS, M.C. and MCNETT, M., 2022. A Scoping Review of the Incidence, Predictors, and Outcomes of Delirium Among Critically Ill Stroke Patients. The Journal of neuroscience nursing, 54(3), pp. 116-123.
- MAN, S., SOLOMON, N., MAC GRORY, B., ALHANTI, B., UCHINO, K., SAVER, J.L., SMITH, E.E., XIAN, Y., BHATT, D.L., SCHWAMM, L.H., HUSSAIN, M.S. and FONAROW, G.C., 2023. Shorter Door-to-Needle Times Are Associated with Better Outcomes after Intravenous Thrombolytic Therapy and Endovascular Thrombectomy for Acute Ischemic Stroke. *Circulation (New York, N.Y.)*, 148(1), pp. 20-34.
- STROKE UNIT TRIALISTS' COLLABORATION, N., 1997. How Do Stroke Units Improve Patient Outcomes? Stroke, 28(11), pp. 2139-2144.
- WALTER, S.M., MCNAIR, N.D., BANAT, R., ANDERSON, T., DAI, Z. and WANG, K., 2022. Results From the Perceived Value of Certification Tool-12 Survey: Analysis of the Perceived Value of Certification Among Stroke and Neuroscience Nurses. The Journal of neuroscience nursing, 54(5), pp. 208-214.



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