CLNEG054: Neuroimaging and Pathophysiology

View Online

A. W. Cowley, 'Long-Term Control of Arterial Blood Pressure', Physiological Reviews, 72.1 (1992), pp. 231–300 <http://physrev.physiology.org/content/72/1/231>

Abbott, N. Joan, and others, 'Structure and Function of the Blood–Brain Barrier', Neurobiology of Disease, 37.1 (2010), pp. 13–25, doi:10.1016/j.nbd.2009.07.030

Altaf, N., and others, 'Carotid Intraplaque Hemorrhage Predicts Recurrent Symptoms in Patients With High-Grade Carotid Stenosis', Stroke, 38.5 (2007), pp. 1633–35, doi:10.1161/STROKEAHA.106.473066

Altaf, Nishath, and others, 'Plaque Hemorrhage Is a Marker of Thromboembolic Activity in Patients with Symptomatic Carotid Disease', Radiology, 258.2 (2011), pp. 538–45, doi:10.1148/radiol.10100198

Anderson, Craig S., and others, 'Rapid Blood-Pressure Lowering in Patients with Acute Intracerebral Hemorrhage', New England Journal of Medicine, 368.25 (2013), pp. 2355–65, doi:10.1056/NEJMoa1214609

Astrup, J., and others, 'Cortical Evoked Potential and Extracellular K+ and H+ at Critical Levels of Brain Ischemia', Stroke, 8.1 (1977), pp. 51–57, doi:10.1161/01.STR.8.1.51

Atrial Fibrillation: The Management of Atrial Fibrillation | Guidance and Guidelines | NICE, n.d. <https://www.nice.org.uk/guidance/cg180>

Attwell, David, and others, 'Glial and Neuronal Control of Brain Blood Flow', Nature, 468.7321 (2010), pp. 232–43, doi:10.1038/nature09613

Barker, Peter B., Xavier Golay, and Greg Zaharchuk, Clinical Perfusion MRI Techniques and Applications (Cambridge University Press, 2013)

Bohman, Leif-Erik, and Joshua M. Levine, 'Fever and Therapeutic Normothermia in Severe Brain Injury', Current Opinion in Critical Care, 20.2 (2014), pp. 182–88, doi:10.1097/MCC.0000000000000070

Bridges, Leslie R., and others, 'Blood-Brain Barrier Dysfunction and Cerebral Small Vessel Disease (Arteriolosclerosis) in Brains of Older People', Journal of Neuropathology & Experimental Neurology, 73.11 (2014), pp. 1026–33, doi:10.1097/NEN.0000000000000124

Chatzizisis, Yiannis S., and others, 'Role of Endothelial Shear Stress in the Natural History of Coronary Atherosclerosis and Vascular Remodeling', Journal of the American College of

Cardiology, 49.25 (2007), pp. 2379–93, doi:10.1016/j.jacc.2007.02.059

Clarkson, Andrew N., and others, 'Reducing Excessive GABA-Mediated Tonic Inhibition Promotes Functional Recovery after Stroke', Nature, 468.7321 (2010), pp. 305–09, doi:10.1038/nature09511

Coupar, F., and others, 'Predictors of Upper Limb Recovery after Stroke: A Systematic Review and Meta-Analysis', Clinical Rehabilitation, 26.4 (2012), pp. 291–313, doi:10.1177/0269215511420305

Culmsee, Carsten, and Josef Krieglstein, 'Ischaemic Brain Damage after Stroke: New Insights into Efficient Therapeutic Strategies. International Symposium on Neurodegeneration and Neuroprotection', EMBO Reports, 8.2 (2007), pp. 129–33, doi:10.1038/sj.embor.7400892

Delcourt, Candice, and Craig Anderson, 'Acute Intracerebral Haemorrhage: Grounds for Optimism in Management', Journal of Clinical Neuroscience, 19.12 (2012), pp. 1622–26, doi:10.1016/j.jocn.2012.05.018

Ferro, José M, 'Cardioembolic Stroke: An Update', The Lancet Neurology, 2.3 (2003), pp. 177–88, doi:10.1016/S1474-4422(03)00324-7

Fisch, Adam, Neuroanatomy: Draw It to Know It, 2nd ed (Oxford University Press, 2012) <http://dx.doi.org/10.1093/med/9780199845712.001.0001>

Flower, Oliver, 'The Acute Management of Intracerebral Hemorrhage', Current Opinion in Critical Care, 17.2 (n.d.) <http://ovidsp.ovid.com/ovidweb.cgi?T=JS&CSC=Y&NEWS=N&PAGE=fulltext&AN=00075198-201104000-00005&LSLINK=80&D=ovft>

Furlan, Mauro, and others, 'Spontaneous Neurological Recovery after Stroke and the Fate of the Ischemic Penumbra', Annals of Neurology, 40.2 (1996), pp. 216–26, doi:10.1002/ana.410400213

Ginsberg, M. D., 'Adventures in the Pathophysiology of Brain Ischemia: Penumbra, Gene Expression, Neuroprotection: The 2002 Thomas Willis Lecture', Stroke, 34.1 (2003), pp. 214–23, doi:10.1161/01.STR.0000048846.09677.62

Gioia, Laura C.a, 'Blood Pressure Management in Acute Intracerebral Hemorrhage: Current Evidence and Ongoing Controversies', Current Opinion in Critical Care, 21.2 (n.d.) <http://ovidsp.ovid.com/ovidweb.cgi?T=JS&CSC=Y&NEWS=N&PAGE=fulltext&AN=00075198-201504000-00003&LSLINK=80&D=ovft>

Gouw, A. A., and others, 'Heterogeneity of Small Vessel Disease: A Systematic Review of MRI and Histopathology Correlations', Journal of Neurology, Neurosurgery & Psychiatry, 82.2 (2011), pp. 126–35, doi:10.1136/jnnp.2009.204685

Grise, Erin M., 'Blood Pressure Control for Acute Ischemic and Hemorrhagic Stroke', Current Opinion in Critical Care, 18.2 (n.d.) <http://ovidsp.ovid.com/ovidweb.cgi?T=JS&CSC=Y&NEWS=N&PAGE=fulltext&AN=00075198-201204000-00005&LSLINK=80&D=ovft>

Grotta, James C., and others, Stroke: Pathophysiology, Diagnosis, and Management, 6th ed (Elsevier Health Sciences, 2015) <http://www.sciencedirect.com/science/book/9780323295444>

Grupke, Stephen, and others, 'Understanding History, and Not Repeating It. Neuroprotection for Acute Ischemic Stroke: From Review to Preview', Clinical Neurology and Neurosurgery, 129 (2015), pp. 1–9, doi:10.1016/j.clineuro.2014.11.013

'Guidelines for Management of Ischaemic Stroke and Transient Ischaemic Attack 2008', Cerebrovascular Diseases, 25.5 (2008), pp. 457–507, doi:10.1159/000131083

Gupta, A., and others, 'Carotid Plaque MRI and Stroke Risk: A Systematic Review and Meta-Analysis', Stroke, 44.11 (2013), pp. 3071–77, doi:10.1161/STROKEAHA.113.002551

Habs, Maximilian, and others, 'Age Determination of Vessel Wall Hematoma in Spontaneous Cervical Artery Dissection: A Multi-Sequence 3T Cardiovascular Magnetic Resonance Study', Journal of Cardiovascular Magnetic Resonance, 13.1 (2011), doi:10.1186/1532-429X-13-76

Hall, Catherine N., and others, 'Capillary Pericytes Regulate Cerebral Blood Flow in Health and Disease', Nature, 508.7494 (2014), pp. 55–60, doi:10.1038/nature13165

Hall, S.D., and others, 'The Role of GABAergic Modulation in Motor Function Related Neuronal Network Activity', NeuroImage, 56.3 (2011), pp. 1506–10, doi:10.1016/j.neuroimage.2011.02.025

Harris, Julia J., Renaud Jolivet, and David Attwell, 'Synaptic Energy Use and Supply', Neuron , 75.5 (2012), pp. 762–77, doi:10.1016/j.neuron.2012.08.019

Hart, Robert G, and others, 'Embolic Strokes of Undetermined Source: The Case for a New Clinical Construct', The Lancet Neurology, 13.4 (2014), pp. 429–38, doi:10.1016/S1474-4422(13)70310-7

Hemphill, J. Claude, and others, 'Guidelines for the Management of Spontaneous Intracerebral Hemorrhage', Stroke, 46.7 (2015), pp. 2032–60, doi:10.1161/STR.0000000000000069

——, and others, 'Guidelines for the Management of Spontaneous Intracerebral Hemorrhage', Stroke, 46.7 (2015), pp. 2032–60, doi:10.1161/STR.0000000000000069

Homma, S., 'Patent Foramen Ovale and Stroke', Circulation, 112.7 (2005), pp. 1063–72, doi:10.1161/CIRCULATIONAHA.104.524371

Hope, Thomas M.H., and others, 'Predicting Outcome and Recovery after Stroke with Lesions Extracted from MRI Images', NeuroImage: Clinical, 2 (2013), pp. 424–33, doi:10.1016/j.nicl.2013.03.005

Hougaard, K. D., and others, 'Remote Ischemic Perconditioning as an Adjunct Therapy to Thrombolysis in Patients With Acute Ischemic Stroke: A Randomized Trial', Stroke, 45.1 (2014), pp. 159–67, doi:10.1161/STROKEAHA.113.001346

Jauch, E. C., and others, 'Guidelines for the Early Management of Patients With Acute Ischemic Stroke: A Guideline for Healthcare Professionals From the American Heart

Association/American Stroke Association', Stroke, 44.3 (2013), pp. 870–947, doi:10.1161/STR.0b013e318284056a

Jones, Derek K., Diffusion MRI: Theory, Methods, and Applications (Oxford University Press, 2011)

Kalanuria, Atul A.a , b, 'Early Prognostication in Acute Brain Damage: Where Is the Evidence?', Current Opinion in Critical Care, 19.2 (n.d.) <http://ovidsp.ovid.com/ovidweb.cgi?T=JS&CSC=Y&NEWS=N&PAGE=fulltext&AN=00075198-201304000-00008&LSLINK=80&D=ovft>

Kirkman, Matthew A., Giuseppe Citerio, and Martin Smith, 'The Intensive Care Management of Acute Ischemic Stroke: An Overview', Intensive Care Medicine, 40.5 (2014), pp. 640–53, doi:10.1007/s00134-014-3266-z

Kirkman, Matthew A. MBBS*,†, 'Supratentorial Intracerebral Hemorrhage: A Review of the Underlying Pathophysiology and Its Relevance for Multimodality Neuromonitoring in Neurointensive Care', Journal of Neurosurgical Anesthesiology, 25.3 (n.d.), pp. 228–39 <http://ovidsp.ovid.com/ovidweb.cgi?T=JS&CSC=Y&NEWS=N&PAGE=fulltext&AN=00008506-201307000-00002&LSLINK=80&D=ovft>

Krakauer, J. W., and others, 'Getting Neurorehabilitation Right: What Can Be Learned From Animal Models?', Neurorehabilitation and Neural Repair, 26.8 (2012), pp. 923–31, doi:10.1177/1545968312440745

Krakauer, JW, and RS Marshall, 'The Proportional Recovery Rule for Stroke Revisited', Annals of Neurology, October 2015, p. n/a-n/a, doi:10.1002/ana.24537

Lees, Kennedy R, 'Does Neuroprotection Improve Stroke Outcome?', The Lancet, 351.9114 (1998), pp. 1447–48, doi:10.1016/S0140-6736(05)78865-6

Libby, Peter, 'Inflammation in Atherosclerosis', Nature, 420.6917 (2002), pp. 868–74, doi:10.1038/nature01323

Liu, J. Y. W., and others, 'Neuropathology of the Blood-Brain Barrier and Pharmaco-Resistance in Human Epilepsy', Brain, 135.10 (2012), pp. 3115–33, doi:10.1093/brain/aws147

Lo, Eng H, 'A New Penumbra: Transitioning from Injury into Repair after Stroke', Nature Medicine, 14.5 (2008), pp. 497–500, doi:10.1038/nm1735

Lo, Eng H., Turgay Dalkara, and Michael A. Moskowitz, 'Neurological Diseases: Mechanisms, Challenges and Opportunities in Stroke', Nature Reviews Neuroscience, 4.5 (2003), pp. 399–414, doi:10.1038/nrn1106

Lok, Josephine, and others, 'Cell–Cell Signaling in the Neurovascular Unit', Neurochemical Research, 32.12 (2007), pp. 2032–45, doi:10.1007/s11064-007-9342-9

Malek, Adel M., 'Hemodynamic Shear Stress and Its Role in Atherosclerosis', JAMA, 282.21 (1999), doi:10.1001/jama.282.21.2035

Murphy, Timothy H., and Dale Corbett, 'Plasticity during Stroke Recovery: From Synapse to

Behaviour', Nature Reviews Neuroscience, 10.12 (2009), pp. 861–72, doi:10.1038/nrn2735

Oeinck, M., and others, 'Dynamic Cerebral Autoregulation in Acute Intracerebral Hemorrhage', Stroke, 44.10 (2013), pp. 2722–28, doi:10.1161/STROKEAHA.113.001913

Pantoni, L., and Philip B. Gorelick (eds), Cerebral Small Vessel Disease (Cambridge University Press, 2014), Cambridge medicine <http://dx.doi.org/10.1017/CBO9781139382694>

Pantoni, Leonardo, 'Cerebral Small Vessel Disease: From Pathogenesis and Clinical Characteristics to Therapeutic Challenges', The Lancet Neurology, 9.7 (2010), pp. 689–701, doi:10.1016/S1474-4422(10)70104-6

Ramos-Cabrer, P., and others, 'Targeting the Ischemic Penumbra', Stroke, 42.1, Supplement 1 (2011), pp. S7–11, doi:10.1161/STROKEAHA.110.596684

Rose, Jack C., and Stephan A. Mayer, 'Optimizing Blood Pressure in Neurological Emergencies', Neurocritical Care, 1.3 (2004), pp. 287–300, doi:10.1385/NCC:1:3:287

Sharp, Frank R., and others, 'Multiple Molecular Penumbras After Focal Cerebral Ischemia', Journal of Cerebral Blood Flow and Metabolism, July 2000, pp. 1011–32, doi:10.1097/00004647-200007000-00001

——, and others, 'Multiple Molecular Penumbras After Focal Cerebral Ischemia', Journal of Cerebral Blood Flow and Metabolism, July 2000, pp. 1011–32, doi:10.1097/00004647-200007000-00001

Smith, Martin MBBS, FRCA, 'Monitoring Intracranial Pressure in Traumatic Brain Injury', Anesthesia & Analgesia, 106.1 (n.d.), pp. 240–48 <http://ovidsp.ovid.com/ovidweb.cgi?T=JS&CSC=Y&NEWS=N&PAGE=fulltext&AN=00000539-200801000-00042&LSLINK=80&D=ovft>

Sposato, Luciano A., and others, 'Very Short Paroxysms Account for More than Half of the Cases of Atrial Fibrillation Detected after Stroke and TIA: A Systematic Review and Meta-Analysis', International Journal of Stroke, 10.6 (2015), pp. 801–07, doi:10.1111/ijs.12555

Staessen, Jan A, and others, 'Essential Hypertension', The Lancet, 361.9369 (2003), pp. 1629–41, doi:10.1016/S0140-6736(03)13302-8

Stary, H. C., and others, 'A Definition of Advanced Types of Atherosclerotic Lesions and a Histological Classification of Atherosclerosis : A Report From the Committee on Vascular Lesions of the Council on Arteriosclerosis, American Heart Association', Circulation, 92.5 (1995), pp. 1355–74, doi:10.1161/01.CIR.92.5.1355

Stinear, C. M., and others, 'The PREP Algorithm Predicts Potential for Upper Limb Recovery after Stroke', Brain, 135.8 (2012), pp. 2527–35, doi:10.1093/brain/aws146

T A Yousry, 'Localization of the Motor Hand Area to a Knob on the Precentral Gyrus. A New Landmark.', Brain, 120.1 (1997), pp. 141–57 <http://brain.oxfordjournals.org/content/120/1/141>

T P Obrenovitch, 'The Ischaemic Penumbra: Twenty Years On', Cerebrovascular and Brain Metabolism Reviews, 7.4 (1995)

Taheri, S., and others, 'Blood-Brain Barrier Permeability Abnormalities in Vascular Cognitive Impairment', Stroke, 42.8 (2011), pp. 2158–63, doi:10.1161/STROKEAHA.110.611731

Virmani, R., and others, 'Lessons From Sudden Coronary Death : A Comprehensive Morphological Classification Scheme for Atherosclerotic Lesions', Arteriosclerosis, Thrombosis, and Vascular Biology, 20.5 (2000), pp. 1262–75, doi:10.1161/01.ATV.20.5.1262

Wakili, Reza, and others, 'Recent Advances in the Molecular Pathophysiology of Atrial Fibrillation', Journal of Clinical Investigation, 121.8 (2011), pp. 2955–68, doi:10.1172/JCI46315

Wang, Yuechun, and others, 'Ischemic Conditioning-Induced Endogenous Brain Protection: Applications Pre-, per- or Post-Stroke', Experimental Neurology, published online April 2015, doi:10.1016/j.expneurol.2015.04.009

Ward, Nick S., 'Does Neuroimaging Help to Deliver Better Recovery of Movement after Stroke?', Current Opinion in Neurology, 28.4 (2015), pp. 323–29, doi:10.1097/WCO.0000000000000223

——, 'Using Oscillations to Understand Recovery after Stroke', Brain, 138.10 (2015), pp. 2811–13, doi:10.1093/brain/awv265

Wardlaw, J.M., and others, 'Is Breakdown of the Blood-Brain Barrier Responsible for Lacunar Stroke, Leukoaraiosis, and Dementia?', Stroke, 34.3 (2003), pp. 806–12, doi:10.1161/01.STR.0000058480.77236.B3

Wartenberg, Katja E., 'Malignant Middle Cerebral Artery Infarction', Current Opinion in Critical Care, 18.2 (n.d.) <http://ovidsp.ovid.com/ovidweb.cgi?T=JS&CSC=Y&NEWS=N&PAGE=fulltext&AN=00075198-201204000-00008&LSLINK=80&D=ovft>

Wilson, D., and others, 'Investigating Intracerebral Haemorrhage', BMJ, 350.may20 10 (2015), pp. h2484–h2484, doi:10.1136/bmj.h2484

Wilson, Duncan, Andreas Charidimou, and David J Werring, 'Advances in Understanding Spontaneous Intracerebral Hemorrhage: Insights from Neuroimaging', Expert Review of Neurotherapeutics, 14.6 (2014), pp. 661–78, doi:10.1586/14737175.2014.918506

Wolf, P. A., R. D. Abbott, and W. B. Kannel, 'Atrial Fibrillation as an Independent Risk Factor for Stroke: The Framingham Study', Stroke, 22.8 (1991), pp. 983–88, doi:10.1161/01.STR.22.8.983

Yuan, Chun, and others, 'MRI of Atherosclerosis in Clinical Trials', NMR in Biomedicine, 19.6 (2006), pp. 636–54, doi:10.1002/nbm.1065

Zeiler, Steven R., and John W. Krakauer, 'The Interaction between Training and Plasticity in the Poststroke Brain', Current Opinion in Neurology, 26.6 (2013), pp. 609–16,

doi:10.1097/WCO.0000000000000025

Zhao, Zhen, and others, 'Central Role for PICALM in Amyloid-β Blood-Brain Barrier Transcytosis and Clearance', Nature Neuroscience, 18.7 (2015), pp. 978–87, doi:10.1038/nn.4025

Zlokovic, Berislav V., 'Cerebrovascular Effects of Apolipoprotein E', JAMA Neurology, 70.4 (2013), doi:10.1001/jamaneurol.2013.2152

——, 'The Blood-Brain Barrier in Health and Chronic Neurodegenerative Disorders', Neuron, 57.2 (2008), pp. 178–201, doi:10.1016/j.neuron.2008.01.003

Zoppo, Gregory J del, and John M Hallenbeck, 'Advances in the Vascular Pathophysiology of Ischemic Stroke', Thrombosis Research, 98.3 (2000), pp. 73–81, doi:10.1016/S0049-3848(00)00218-8