

Concussion

The dramatic story of one man's recovery offers new hope to those suffering from concussions and other brain traumas. In 1999, Clark Elliott suffered a concussion when his car was rear-ended. Overnight his life changed from that of a rising professor with a research career in artificial intelligence to a humbled man struggling to get through a single day. At times he couldn't walk across a room, or even name his five children. Doctors told him he would never fully recover. After eight years, the cognitive demands of his job, and of being a single parent, finally became more than he could manage. As a result of one final effort to recover, he crossed paths with two brilliant Chicago-area research-clinicians—one an optometrist emphasizing neurodevelopmental techniques, the other a cognitive psychologist—working on the leading edge of brain plasticity. Within weeks the ghost of who he had been started to re-emerge. Remarkably, Elliott kept detailed notes throughout his experience, from the moment of impact to the final stages of his recovery, astounding documentation that is the basis of this fascinating book. *The Ghost in My Brain* gives hope to the millions who suffer from head injuries each year, and provides a unique and informative window into the world's most complex computational device: the human brain.

NEW YORK TIMES BESTSELLER • NOW A MAJOR MOTION PICTURE • Dr. Bennet Omalu discovered something he could not ignore. The NFL tried to silence him. His courage would change everything. “A gripping medical mystery and a dazzling portrait of the young scientist no one wanted to listen to . . . a fabulous, essential read.”—Rebecca Skloot, author of *The Immortal Life of Henrietta Lacks* Jeanne Marie Laskas first met the young forensic pathologist Dr. Bennet Omalu in 2009, while reporting a story for GQ that would go on to inspire the movie *Concussion*. Omalu told her about a day in September 2002, when, in a dingy morgue in downtown Pittsburgh, he picked up a scalpel and made a discovery that would rattle America in ways he'd never intended. Omalu was new to America, chasing the dream, a deeply spiritual man escaping the wounds of civil war in Nigeria. The body on the slab in front of him belonged to a fifty-year-old named Mike Webster, aka “Iron Mike,” a Hall of Fame center for the Pittsburgh Steelers, one of the greatest ever to play the game. After retiring in 1990, Webster had suffered a dizzyingly steep decline. Toward the end of his life, he was living out of his van, tasing himself to relieve his chronic pain, and fixing his rotting teeth with Super Glue. How did this happen?, Omalu asked himself. How did a young man like Mike Webster end up like this? The search for answers would change Omalu's life forever and put him in the crosshairs of one of the most powerful corporations in America: the National Football League. What Omalu discovered in Webster's brain—proof that Iron Mike's mental deterioration was no accident but a disease caused by blows to the head that could affect everyone playing the game—was the one truth the NFL wanted to ignore. Taut, gripping, and gorgeously told, *Concussion* is the stirring story of one unlikely man's decision to stand up to a multibillion-dollar colossus, and to tell the world the truth.

Recognition of concussion as a serious injury, informed by neurological and physiological research, is now commonplace in sport. However, research on the psychology of concussive injury—its psychological implications and outcomes, and psychological interventions for prevention and recovery—has largely been overlooked. This is the first book to explicitly and authoritatively set out the psychological aspects of sport-related concussion from a multidisciplinary and global perspective. The book attempts to offer a global understanding of the injury by presenting an historical overview; exploring the psychological implications of sport-related concussion and the influence of gender and sociocultural context on concussive injury and recovery; setting out practical guidance on working with special populations suffering from concussive injuries; and discussing the theoretical and methodological considerations for research on concussion and future directions for this research. Written by a group of leading international experts and offering a hitherto underdeveloped perspective on this crucial area of sports injury research, this book is crucial reading for any upper-level student, researcher, sport scientist, coach, or allied health professional working on sport-related concussion. It is also valuable reading for students and researchers interested in the psychosocial processes that impact injury and recovery or general professional practice in sport psychology.

This is a practical manual for clinicians who take care of patients with concussions. The long-term effects of concussions are an increasingly recognized problem in the medical community and by the general public. Most people recover well from concussions, but a substantial minority does not. However, most clinicians do not have specific training in how to evaluate and treat concussion patients who do not make a rapid and complete recovery. This manual, based on the experience of the director of the concussion clinic at Washington University in St Louis, provides specific step-by-step guidance for managing a variety of problems related to complex concussions: making an accurate diagnosis, general treatment strategies, headaches, sleep disruption, attention deficit, mood instability, anxiety and depression, post-traumatic stress, personality change, balance problems, dizziness, fatigue etc. Furthermore, there are specific sections on return to work, return to driving, return to school and return to contact sports. Finally, the manual includes information on special topics, such as concussion in adolescents, children, contact sport athletes, military personnel, and patients involved in medico-legal matters. The manual is written for clinicians with a broad range of backgrounds: primary care physicians, nurse practitioners, physician's assistants, athletic trainers, emergency medicine doctors, neurologists, neurosurgeons, psychiatrists, and rehabilitation medicine physicians should all be able to use the manual effectively. There is information on how to set up a specialty concussion clinic, and an extensive list of internet-based resources related to concussion. A list of other publications is provided to point to additional detailed information beyond what a pocket-sized 'on-the-fly' manual can provide.

Concussions are a world-wide epidemic --43 million cases are diagnosed each year. The good news is that there are effective treatments available today which reverse the symptoms of a concussion by correcting the underlying mechanisms of injury to the brain. *The Concussion Cure* is the first book which describes in detail how a concussion should be diagnosed and then treated. Both the diagnosis and treatments are based upon the findings of two diagnostic tests which show functional abnormalities. In this comprehensive guide, Paul Henry Wand, MD explains how to treat recent concussions as well as those from years ago, and covers undiagnosed and untreated conditions which are often overlooked. *The Concussion Cure* offers hope to patients with traumatic brain injuries and their families by sharing detailed information on three different treatment modalities which are proven to reverse the systems of a concussion. These treatments include specific medication to increase the blood flow in the brain, neurofeedback and hyperbaric oxygen.

This book provides a broad introduction to the important topic of concussive brain injury that considers historical, medical, research-based, and legal and ethical perspectives. • Examines the

topic of concussions from historical and legal/ethical perspectives as well as medical perspectives and provides insights into current issues and controversies • Includes excerpts from primary source documents that provide additional information and bolster students' critical thinking skills • Provides a full complement of research tools for students: a timeline, glossary, index, and sources for additional information

Concussions are serious and often misunderstood injuries. This important book explores concussions from every angle, including how they happen and what to do should a reader suffer one while on the field. Unlike more physically apparent injuries, concussions are diagnosed through symptoms. Knowing what concussions do to the brain and how they affect people's actions is important to staying healthy when playing high-impact sports. Readers will learn important health lessons that will help them understand how doctors treat concussions and get them back on the field safely after taking a bit hit.

This important book presents a unique, personal account of the impact a mild traumatic brain injury can have. It tells the story of Pauline, who was 33 when a late football tackle caused a bleed in her brain which went undiscovered for 18 months. The account includes descriptions of hidden symptoms of concussion and post-concussion syndrome, pitfalls in diagnoses, the uneven progress of recovery and the effect of the varied reactions which others have to an acquired brain injury. The author incorporates memories alongside extracts from clinic notes, diary entries and emails to reflect the disjointed progress of diagnosis and recovery as- although similar- no two head injuries are the same. Through this book, the reader gains an appreciation of the confusion experienced by many brain injury survivors, which sheds light on why some may develop unusual behavior or mental health issues, and how such issues can be alleviated. Brain injuries are poorly understood by the general public and this can lead to difficult interactions. Moreover, complications in diagnosis means some may not realize they have this milder form of brain injury. This book will enlighten brain injury survivors and affected families and allow professionals an insight into their patients' experiences. As concerns grow over the risks which contact sports pose, this book shows how even mild brain injuries can wreak havoc with careers, relationships and one's sense of self, but that a happy life can still be found.

The word concussion was unheard of in youth sports a decade ago. The injury was indeed occurring, but youth athletes were often told to "shake it off" after "getting their bell rung." Science and increased awareness about concussion and brain health have transformed the way youth parents, coaches, and players pursue athletics. Fear of incurring concussions, as well as incomplete or incorrect information, is leading some parents to keep their children out of contact sports, such as football and soccer, where concussion is more prevalent. *Back in the Game: Why Concussion Doesn't Have to End Your Athletic Career* does not dwell on perpetuating fears but, rather, provides the most up-to-date understanding of the condition. This is a real-world discussion of what science and medicine know, what parents and coaches need to understand about concussion, evaluation and treatment, and what possible post-concussive issues exist. The expertise and experiences of noted sports neurologist Jeffrey S. Kutcher, MD, along with reporting and interviews by award-winning sports journalist Joanne C. Gerstner, make this book a timely, relevant, and real discussion about concussions in youth sports. Athletes and professional coaches who have participated in the formation of this book include two-time Olympic gold medalist soccer player Kate Markgraf, former NHL/Team Canada head coach Andy Murray, champion X-Games snowboarder Ellery Hollingsworth, along with an array of youth parents, coaches, and athletes from across the country.

The increasing recognition of concussion and its associated consequences has focused international attention on mild traumatic brain injury. The need for early diagnosis, evaluation, and management has expanded dramatically. This volume includes the experience of leading experts who describe the recent advances in the pathophysiology, biomechanics, imaging definition, and management of concussion. Advanced imaging and electrophysiological techniques are being used to help delineate the underlying metabolic and ultrastructural effects of concussive injuries. Papers in this volume review the role of emerging techniques including fMRI, SPECT, PET, DTI, MRS, and MEG, as well as report on multimodality concussion management programs which offer guidelines for selecting relevant team members, assessing community needs, and implementing management strategies that align with current practice standards. This publication provides neurosurgeons, neurologists, trauma and sports medicine specialists, physiatrists, neuropsychologists, and neuroscientists with a comprehensive overview of the current understanding of the causes of mild traumatic brain injury or concussion, newer methods to evaluate it, and current and evolving multimodality management strategies.

Concussion, even in its mildest form, can have lasting effects on the individual in a way we're only just beginning to understand. Mild Traumatic Brain Injuries (mTBI), concussion and post-concussion syndrome have previously been conservatively managed with recommendations for 'rest'. But even mild brain injuries and post-concussion syndrome can have an enormous impact on life, long after the 3 months during which they are expected to resolve. There are also significant differences between the way in which concussion affects men and women respectively, as this new research shows. If concussion or an mTBI are affecting you, there is much in this book to help and support your symptoms. Neuropsychologist Dr Priyanka Pradhan has pulled together the latest research to provide a complete manual for overcoming the impact of any mild brain injury. Her book explains what a concussion is and how it may present, and give practical strategies for managing persistent symptoms. Such strategies include not only how to ask for professional and specialist medical help (and where to get it from), but also self-management techniques that draw on things like EMDR, craniosacral therapy and osteopathy.

Understanding and Living Well After Concussion also explains the importance of sleep and diet, and includes significant psychological and emotional support for mental wellbeing and recovery, a support that is often missing from the clinical pathway for post-concussion syndrome. This book is an essential resource for anyone who feels that they need insight, practical help and emotional support into what is often perceived as an almost-invisible illness, but one which is very real for you or your loved one.

Have you suffered a concussion? Do you still have symptoms that won't get better? Do you wonder why your brain is not back to normal despite everyone telling you it should be?"Concussions" or minor head injuries are common. Half of us will experience one at some point in our life. Most people make a swift and complete recovery, but a significant proportion suffers ongoing problems that can last many months. Frequently called the "hidden disability", people suffering head injuries often feel alone in their suffering and struggle to know what to do to get better. A common misperception is that these problems are from a damaged brain and there is nothing that can be done to help. But in *Concussion: What has happened to my brain?* Consultant Neurologist and Brain Injury Expert, Dr Peter Jenkins, explains how a minor head injury can affect the brain, the different potential causes for persisting symptoms and the simple measures that can be taken to help resolve them. An understanding of what has happened to the brain and the cause of any residual symptoms is a crucial step towards recovery. This book details the changes that can happen in the brain and the reason behind some of the myths surrounding this condition. Treatable symptoms are frequently neglected after a head injury because of the false belief that nothing can be done to help. However, this is often not the case and the book outlines simple, effective treatments.

This book presents information needed for people working with concussion recovery, as well as anyone currently experiencing a concussion, especially those which are sports-related. There is currently no defined body of knowledge that practitioners in this field need to know, and this book serves to fill that gap. While medical attention is often needed at the beginning of the injury, the most important parts of

ongoing treatment are behavioural, namely managing and monitoring the patient and engaging them in appropriate “active rehabilitation” strategies. The competencies described here address multiple constituencies, from medical personnel to patients. The book is designed to direct the reader to appropriate sections in a straightforward manner supported by evidence and research. The core focus here is on schools, where the consequences of sports-related concussion are significant. However, the knowledge competencies are broad enough to provide a solid education in concussions and what to do about them across various environments.

In summarizing current insights and controversies over concussions in athletics, this book makes the vital point that symptom resolution does not necessarily mean injury resolution. Research shows that dysfunctional pathways continue for extended periods even after a minor concussion. Until the consequences of short-term perturbations and long-term residual brain dysfunctions are better understood, concussions must be treated with respect and given a higher priority for continued research activity.

Inside the most controversial issue in sports Traumatic brain injury in football is not incidental, but an inevitable and central aspect of the sport. Starting in high school, through college, and into the NFL, young players face repeated head trauma, and those sustained injuries create lifelong cognitive and functional difficulties. Muchnick's Concussion Inc. blog exposed the decades-long cover-up of scientific research into sports concussions and the ongoing denial to radically reform football in North America. This compilation from Muchnick's no-holds-barred investigative website reveals the complete head injury story as it developed, from the doctor who played fast and loose with the facts about the efficacy of the state-mandated concussion management system for high school football players, to highly touted solutions that are more self-serving cottage industry than of any genuine benefit. Known for extensive reporting on the tragic story of the Chris Benoit murder-suicide, Muchnick turns his investigative analysis to traumatic brain injury and probes deep into the corporate, government, and media corruption that has enabled the \$10-billion-a-year National Football League to trigger a public health crisis.

This issue of Neuroimaging Clinics of North America focuses on Imaging of Brain Concussion, and is edited by Drs. Roy Riascos and Eliana E. Bonfante-Mejia. Articles will include: Traumatic Brain Injury: definition, neurosurgery, trauma-orthopedics, neuroimaging, and psychology-psychiatry; Multimodality advanced imaging for brain concussions; Perfusion weighted images in brain concussion; PET and SPECT in brain concussion; Imaging of chronic concussion; Imaging of concussion in young athletes; Imaging on concussion in blast injury; Conventional CT and MR in brain concussion; Structural imaging: structural MRI in concussion; Susceptibility weighted imaging and MR spectroscopy in concussion; Functional imaging fMRI – BOLD and resting state techniques in mTBI; Diffusion Weighted and Diffusion Tensor Imaging in mTBI; and more!

Readers will discover how very recent scientific advances have overthrown a century of dogma about concussive brain injury.

The first book to focus on managing concussions from prevention to post-concussion return to school Concussions pose a serious and complex issue for schools – from determining if a student may have suffered a concussion during a school activity to ensuring that students diagnosed with this condition can safely and effectively resume study, recreation, and sports. This is first comprehensive text for front-line school staff, including psychologists, counselors, and nurses, to focus on managing concussions in students, from prevention to post-concussion return to school. With a focus that addresses concussions in and beyond the sports field, the book describes how to create and lead a concussion management team in school and provides clear, non-technical information on how concussions can affect learning, mental health, and social-emotional functioning; tools for school-based concussion assessment; and guidelines for creating accommodation plans in collaboration with the family, community, and school team. The text guides front-line school professionals in navigating the barriers, system issues, knowledge gaps, and complexities in recognizing and responding to student concussions. Case studies integrated throughout each chapter feature the same three students from point of injury to recovery. Reproducible forms and handouts include accommodation checklists, signs and symptoms, checklist, post-concussion care plan, progress monitoring tools, and decision trees. Key Features: Offers comprehensive, practical information on concussion for school psychologists, counselors, and nurses Describes how to form a school-based management team Explains how concussions can affect learning, mental health and social-emotional functioning Includes guidelines for creating accommodation plans in collaboration with family, community, and school team Includes in-depth case studies and handouts, forms, and checklists

A comprehensive guide for improving memory, focus, and quality of life in the aftermath of a concussion. Often presenting itself after a head trauma, concussion— or mild traumatic brain injury (mTBI)— can cause chronic migraines, depression, memory, and sleep problems that can last for years, referred to as post concussion syndrome (PCS). Neuropsychologist and concussion survivor Dr. Diane Roberts Stoler is the authority on all aspects of the recovery process. Coping with Concussion and Mild Traumatic Brain Injury is a lifeline for patients, parents, and other caregivers.

Concussion by Jeanne Marie Laskas | Summary & Analysis Preview: Concussion by Jeanne Marie Laskas chronicles the story of Dr. Bennet Omalu, a Nigerian-born forensic pathologist known for his seminal research on chronic traumatic encephalopathy (CTE), a degenerative brain disease largely found in people who have sustained repetitive brain trauma. In 2002, while working as a pathologist at the Allegheny County coroner's office in Pittsburgh, Omalu autopsied the brain of Pro Football Hall of Fame center “Iron Mike” Webster of the Pittsburgh Steelers. This led to his groundbreaking discovery of CTE in the brains of relatively young and otherwise healthy football players. When he published his first report on CTE in 2005 in Neurosurgery, Omalu assumed that the National Football League (NFL) would rejoice and take steps to ensure player safety. Instead, this report would lead to a decade-long battle with the NFL, which refused to acknowledge the connection between football's dangers and the resultant health of its players... PLEASE

NOTE: This is a summary and analysis of the book and NOT the original book. Inside this Instaread Summary & Analysis of Concussion: • Summary of book • Introduction to the Important People in the book • Analysis of the Themes and Author's Style

Concussion has become one of the most significant issues in contemporary sport. The life-changing impact of head injury and the possible threat that chronic traumatic encephalopathy poses to children and young athletes in particular is calling into question the long-term future of some of our most well-established sports. But what are the real

issues behind the headlines and the public outcry, and what can and should be done to save sport from itself? This concise, provocative introduction draws on perspectives from sociology, medicine, ethics, psychology, and public health to answer these questions and more. The book explores the context in which the current cultural crisis has emerged. It assesses the current state of biomedical knowledge; the ethics of regulating for brain injury; the contribution of the social sciences to understanding the behaviour of sports participants; and the impact of public health interventions and campaigns. Drawing on the latest research evidence, the book explores the social roots of sport's concussion crisis and assesses potential future solutions that might resolve this crisis. This is essential reading for anybody with an interest in sport, from students and researchers to athletes, coaches, teachers, parents, policy-makers, and clinicians.

The most up-to-date resource on nutritional supplements for the prevention and improved management of concussive injury, TBI, and PTSD • Provides an easy-to-follow program of supplements to optimize the benefits of treatment programs and offer a method of prevention beyond the use of helmets • Shows how standard treatments do not address the oxidative stress, chronic inflammation, and high glutamate levels that promote brain injury progression • Explains how single micronutrients do not provide the same preventive benefits as the synergistic combinations explored in the book The human brain is highly complex. When brain injury strikes, whether from a blow to the head or the shock of physical or emotional trauma, successful treatment requires a multilevel approach, taking into account the health of the brain prior to injury. Multilevel, complementary treatment approaches can also be applied to strengthen the uninjured brain and help prevent neurological injury for those at high risk of concussion, post-traumatic stress disorder, and traumatic brain injury. In this practical scientific guide, leading researcher in cancer, heart disease, and Alzheimer's prevention Kedar N. Prasad, Ph.D., reveals the latest revolutionary discoveries on the use of antioxidants and micronutrients to manage and prevent concussive injury, TBI, and PTSD. He explains that increased oxidative stress, chronic inflammation, and glutamate release are common underlying factors in these conditions and should be addressed for improved management. He debunks the flawed conclusions of the neurological community that vitamins and antioxidants are ineffective for these conditions, revealing how their studies focused on specific micronutrients rather than synergistic combinations. The author details his easy-to-follow supplement program to treat and prevent these injuries, outlining the correct daily amounts and proper combinations of vitamins, antioxidants, micronutrients, and polyphenolic compounds such as curcumin and resveratrol. Offering the missing complement to standard medical care of brain injury as well as a form of prevention beyond the use of helmets, this guide provides a truly holistic approach to the prevention and management of concussive injury, TBI, and PTSD.

"This portrait of many months recovering has much to teach the physicians as well as lay readers. The condition she struggled with is neither rare nor trivial, but unfortunately, remains medically unaddressed." - Bruce Beutler Nobel Prize Winner & Laureate 2011. "As a close friend to Hannah and no stranger to brain injuries after playing in the NFL as a wide receiver for the Buffalo Bills for sixteen years and being ranked 10th in NFL history, I watched Hannah regress slowly. I had just lost my friend, Junior Seau, to suicide resulting from a brain injury. I couldn't sit back and let her fall too. Today, the controversy over concussions and post concussion syndrome is growing rapidly. This timely book sheds a light for all those who have suffered from it." - Andre Reed NFL Hall of Fame 2014.

HIGHLY COMMENDED for the British Medical Awards book prize for Popular Medicine Up to 10% of people will suffer a mild head injury (or 'mild traumatic brain injury') in their lifetime and up to 50% of those people will also find they have lingering post-concussion symptoms in the months or years afterwards. These symptoms can include headaches, dizziness, fatigue, irritability, sleep disturbance, reduced day-to-day memory, poor concentration, taking longer to think, 'muzzy' headedness, depression, anxiety, tinnitus, blurred or double vision, sensitivity to light or noise, frustration, nausea, restlessness and sensitivity to alcohol. In such circumstances the 'mild' head injury may feel anything but mild. This is particularly so if large areas of your day to day life are affected. People in these circumstances can have their difficulties compounded by the very different explanations for their persisting difficulties. These usually involve receiving contradictory opinions about the extent to which ongoing symptoms are caused by neurological brain injury or other factors. These complicating factors can make it very difficult to find the right kind of service or expertise after a TBI. Patients can easily feel like they are being "pushed from pillar to post" when trying to find services that can help with their problems. On top of all of this, there is a distinct lack of good, science-based information for patients about the best ways to manage PCS. It is therefore very common for those who experience prolonged difficulties to find their situation extremely confusing, frustrating and stressful. Dr Nigel King is an expert with much experience in this area, and has written a very valuable book weaving together the most useful knowledge in this area. It clarifies some of the complex issues for those who suffer with prolonged problems and provides practical, science-based self-help guidance for managing TBI difficulties. Using cognitive rehabilitation techniques and CBT approaches for the associated mental health complications of PCS, this much need book provides help, hope and understanding for what can be a highly disabling and misunderstood condition.

A cautionary assessment of the rising frequency of brain injuries among young athletes counsels parents on the risks associated with head trauma while identifying factors that contribute to missed diagnoses and brain damage, in a reference that is complemented by illustrative true stories.

Concussion has become one of the most significant issues in contemporary sport. The life-changing impact of head injury and the possible threat that CTE poses to children and young athletes in particular is calling into question the long-term future of some of our most well-established sports. But what are the real issues behind the headlines and the public outcry, and what can and should be done to save sport from itself? This concise, provocative introduction draws on perspectives from sociology, medicine, ethics, psychology and public health to answer these questions and more. The book explores the context in which the current cultural crisis has emerged. It assesses the current state of biomedical knowledge; the ethics of regulating for brain injury; the contribution of the social sciences to understanding the

behaviour of sports participants, and the impact of public health interventions and campaigns. Drawing on the latest research evidence, the book explores the social roots of sport's concussion crisis and assesses potential future solutions that might resolve this crisis. This is essential reading for anybody with an interest in sport, from students and researchers to athletes, coaches, teachers, parents, policy-makers and clinicians. 2288; Drawing on the latest research evidence, the book explores the social roots of sport's concussion crisis and assesses potential future solutions that might resolve this crisis. This is essential reading for anybody with an interest in sport, from students and researchers to athletes, coaches, teachers, parents, policy-makers and clinicians.

Between the growing numbers of children and adolescents playing sports and the increased attention to head injuries by the larger sports community and the general public, pediatric concussions are emerging as a major concern. And as practitioners are seeing more young clients with head injuries, questions arise about age-appropriate assessment, diagnosis, treatment, and return to activity. *Pediatric and Adolescent Concussion: Diagnosis, Management, and Outcomes* offers evidence-based guidelines where few previously existed. This comprehensive volume clearly explains the effects of traumatic injury on the developing brain in sports- and non-sports-related contexts, and establishes a framework for immediate and long-term management, especially the crucial first 24 hours. Chapters provide a basic grounding in its subject with a history of concussion as a medical entity and a review of definitional and classification issues, take the reader through the steps of a neuropsychological evaluation, pinpoint post-injury issues, and offer strategies for the prevention of further or future injury. *Pediatric and Adolescent Concussion: Diagnosis, Management, and Outcomes* serves as both educational resource and practical framework for a wide array of professionals, including neuropsychologists, sports medicine physicians, child psychologists and psychiatrists, pediatric and family physicians, athletic trainers, social workers, and educators.

Clinicians and patients can no longer wait for answers to fundamental questions regarding how to properly evaluate and treat concussions and traumatic brain injuries. Doctors, those suffering, and their loved ones have questions that need to be answered, including: • When will someone emerge from a coma? • Can the fear of going out in public be overcome? • Will problems pertaining to memory and anger management go away? • Will the individual be able to work again? Dr. Kester J Nedd, a board-certified neurologist, draws on his years of experience treating patients suffering from head injuries to answer these questions and many more. Filled with real stories of patients, this first volume explores how this modern epidemic is often misdiagnosed or left untreated. Unsound definitions, rules of engagement, and limited scientific evidence has caused us to lose generations of people who suffered the fate of this condition. The author shares a new and transformative evaluation method, known as Brain Hierarchical Evaluation and Treatment- the BHET method. The book outlines the hierarchical organization of the brain "from head to tail" and highlights what happens to the brain after an injury and how it responds.

Two soccer players collide on the field. A soldier in Afghanistan is thrown to the ground during a bomb explosion. A teen has an accident while riding her bike--and she isn't wearing her helmet. Each of these incidents can produce a traumatic brain injury (TBI). Of the 1.7 million Americans officially diagnosed with TBI each year, 52,000 die from their injuries. And that doesn't count all the unreported TBIs, which experts estimate range from about two to four million more incidents. TBIs range from concussions to penetrating head injuries to life-threatening brain swelling and coma. And they have countless causes: war, sports, car and motorcycle accidents, falls, and physical violence. The aftereffects can be devastating, including compromised memory and concentration, loss of hearing, physical disabilities, depression, brain disorders, and, in the worst-case scenario, death. Find out about the different types of TBIs, what causes them, and how they are diagnosed and treated. Along the way, you'll learn about National Hockey League player Derek Boogaard and U.S. Representative Gabby Giffords, both of whom sustained TBIs, with dramatically different outcomes. You'll also meet teens and young adults living with TBIs and the doctors who treat them. And you'll learn about amazing medical technologies that help victims recover and promise hope for the future.

Sports concussions make headlines, but you don't have to be an NFL star to suffer traumatic brain injury. In *Shaken Brain*, Elizabeth Sandel, MD, shares stories and research from her decades treating and studying brain injuries. She explains what concussions do to our bodies, how to avoid them, and how to recover.

This comprehensive, reader-friendly book written by a top physician in the field explains to coaches and parents how to understand, cope with, and prevent sport-related concussions among children and teenagers. * A foreword from Lyle Micheli, MD, past president of the American College of Sports Medicine and author of *The Sports Medicine Bible for Young Athletes*, commenting on the significance of sport-related concussion in pediatric and adolescent sports * A glossary * A bibliography referencing key investigations in the scientific literature for readers seeking a more in-depth, scientific analysis

Dr. Kabran Chapek shares the programs and protocols that he uses at the Amen Clinics to put patients on the pathway to healing from traumatic brain injury. From general assessment using sophisticated tools (SPECT imaging, MRIs and CAT scans) to very specific blood tests (out-of-balance lab values in blood can point to symptoms of brain injury and may explain why the brain is not healing), Dr. Chapek guides readers to getting the proper medical care. He shares the cutting edge and most effective treatments for acute traumatic brain injury, as well as chronic traumatic brain injury, and provides the most powerful natural treatments including diet and supplements.

This is the story of one man's fight against a multibillion dollar colossus. A man who stood up for what was right, whatever the cost. The brilliant young forensic pathologist had no idea that the body on the slab in front of him would change his life, and ultimately change the world. The body belonged to legendary American Footballer Mike Webster, whose mental health had rapidly declined after he had stopped playing - he had ended up Tasing himself to relieve his chronic back pain and fixing his rotting teeth with Superglue. Dr Bennet Omalu found that the psychosis suffered by "Iron Mike" was no accident. His autopsy unearthed evidence of a trauma-related disease - the direct result of years of blows to the head in games. He knew it would keep killing scores of other sportsmen unless something was done. He believed that the NFL (National Football League), one of the most powerful corporations in America, would welcome the discovery. But it was the one truth they wanted to ignore. Omalu himself became a target. 'This is classic David and Goliath stuff, and as exciting as a great courtroom drama. A riveting, powerful human tale . . . a masterclass on how to tell a story' Charles Duhigg, New York Times columnist and bestselling author of *The Power of Habit*

In the past decade, few subjects at the intersection of medicine and sports have generated as much public interest as sports-related concussions - especially among youth.

Despite growing awareness of sports-related concussions and campaigns to educate athletes, coaches, physicians, and parents of young athletes about concussion recognition and management, confusion and controversy persist in many areas. Currently, diagnosis is based primarily on the symptoms reported by the individual rather than on objective diagnostic markers, and there is little empirical evidence for the optimal degree and duration of physical rest needed to promote recovery or the best timing and approach for returning to full physical activity. *Sports-Related Concussions in Youth: Improving the Science, Changing the Culture* reviews the science of sports-related concussions in youth from elementary school through young adulthood, as well as in military personnel and their dependents. This report recommends actions that can be taken by a range of

audiences - including research funding agencies, legislatures, state and school superintendents and athletic directors, military organizations, and equipment manufacturers, as well as youth who participate in sports and their parents - to improve what is known about concussions and to reduce their occurrence. Sports-Related Concussions in Youth finds that while some studies provide useful information, much remains unknown about the extent of concussions in youth; how to diagnose, manage, and prevent concussions; and the short- and long-term consequences of concussions as well as repetitive head impacts that do not result in concussion symptoms. The culture of sports negatively influences athletes' self-reporting of concussion symptoms and their adherence to return-to-play guidance. Athletes, their teammates, and, in some cases, coaches and parents may not fully appreciate the health threats posed by concussions. Similarly, military recruits are immersed in a culture that includes devotion to duty and service before self, and the critical nature of concussions may often go unheeded. According to Sports-Related Concussions in Youth, if the youth sports community can adopt the belief that concussions are serious injuries and emphasize care for players with concussions until they are fully recovered, then the culture in which these athletes perform and compete will become much safer. Improving understanding of the extent, causes, effects, and prevention of sports-related concussions is vitally important for the health and well-being of youth athletes. The findings and recommendations in this report set a direction for research to reach this goal.

The risk of athletes sustaining concussion while participating in professional team sports raises two serious concerns both nationally and internationally. First, concussion in sport carries a public health risk, given that injured athletes may have to deal with significant long-term medical complications, with some of the worst cases resulting in Chronic Traumatic Encephalopathy (CTE). Secondly, sports governing bodies are now exposed to the risk of financial and reputational damage as a consequence of legal proceedings being filed against them. A good example of this, among many other recent examples, is the case of the United States of America's National Football League (NFL), the governing body for American football, which, in 2015, committed to pay US\$ 1 billion to settle the class action filed by its former professional players. This book examines how to most efficiently reduce these public health and legal risks, and proposes a harmonised solution across sports and legal systems.

"Concussions present a multitude of somatic, cognitive, and emotional symptoms that may persist for extended periods of time. In response to stressful situations, such as concussion, athletes engage in an appraisal and coping process that results in a coping outcome, and consequent behavioral or emotional responses. The severity of a protracted concussion injury, compounded with daily life stress, has lasting psychological implications that can be mediated through the use of different coping mechanisms (André-Morin, Caron, & Bloom, 2017). The purpose of the current study was to explore the coping process used by female collegiate athletes who suffered concussion symptoms that lasted for longer than 6 weeks. Individual semi-structured interviews were conducted with five female university athletes to identify and describe coping outcomes, as well as factors that facilitated or prevented adaptive coping responses. Interviews were transcribed verbatim and thematic analysis was used to organize data into themes and subthemes, which provided a complete understanding of each participants' experience (Sparkes & Smith, 2014). Results from the analysis suggest athletes in this study experienced a multitude of emotional outcomes that have not previously been explored with the sport concussion literature, including the psychological implications of severe headaches, weight concern, and perceived loss of control. Furthermore, the athletes engaged in emotion-focused styles of coping such as avoidance behaviors and acceptance. Athletes felt that their lack of control over treatment protocol negatively impacted their recoveries, therefore they engaged in avoidance behaviors. However, social support played a key role as a facilitator of effective coping behaviors and helped athletes to accept their injuries. These results add to the growing body of literature on the psychology of protracted concussion. Additionally, this study continues emerging research on coping and sport-related concussion, including identifying what resources athletes need to cope properly"--

Concussions in Athletics: From Brain to Behavior is a timely and major contribution to the literature that comprehensively addresses the neuromechanisms, predispositions, and latest developments in the evaluation and management of concussive injuries. Also known as mild traumatic brain injury, concussion in athletics is a growing public health concern with increased attention focusing on treatment and management of this puzzling epidemic. Despite the increasing occurrence and prevalence of concussions in athletics, there is no universally accepted definition, or "gold standard," for its assessment. Concussion in Athletics: From Brain to Behavior provides a range of major findings that may shed important light on current controversy within the field. The book is organized in five parts: Evaluation of Concussion and Current Development; Biomechanical Mechanisms of Concussion and Helmets; Neural Substrates, Biomarkers and Brain Imaging of Concussion Research; Pediatric Sport-related Concussions; and Clinical Management and Rehabilitation of Concussions. An invaluable contribution to the literature, Concussions in Athletics: From Brain to Behavior is a state-of-the-art reference that will be of significant interest to a wide range of clinicians, researchers, administrators, and policy makers.

This book presents a comprehensive, team-based model for assessment and treatment of concussion.

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