amplifire
HEALTHCARE **ALLIANCE**

COURSE CATALOG

Great outcomes happen when people master faster, retain longer, and perform better.

Table of Contents

About the Amplifire Healthcare Alliance Courses

The Platform

All our courses are delivered in Amplifire, the leading e-learning platform built on the most current discoveries in cognitive science. The Amplifire learning algorithm detects and corrects the knowledge gaps, doubts, and misinformation that exist in the minds of clinicians in every healthcare organization. The platform adapts to the needs of each individual as they take an Amplifire course until mastery of each topic is achieved.

After the platform finds and fixes confidently held misinformation (CHM) and uncertainties held by clinicians, it delivers advanced analytics to organizations and managers that pinpoint where learners struggled, from the organization and unit level down to the individual learner.

Solving a significant healthcare problem

Healthcare organizations have adopted Amplifire as a core operating asset. They have transformed training from a rote activity, where managers can only hope for results, into a strategic, measurable tool that delivers a clinical workforce aligned with the latest evidence-based medicine.

With more than a billion learner interactions, Amplifire harnesses research, learner feedback, and artificial intelligence to provide a faster and more engaging path to mastery. This powerful combination has made Amplifire an innovative leader in the learning industry.

The Courses

These courses are developed by members of the Amplifire Healthcare Alliance and represent the priorities and expertise of some of the nation's largest and most prestigious health systems. The goal of each course is to improve patient outcomes and hospital financial performance by finding and fixing CHM.

For more information

To learn more about the platform and its application in healthcare, please get in touch:

- jfleming@amplifire.com
- 720-799-1319
- https://amphealthalliance.com/course-catalog/

Confidently Held Misinformation (CHM) *–The most important healthcare metric you've never heard of…*

Confidently Held Misinformation lives in the minds of all clinicians and is one of the largest contributors to costly medical error.

CHM exists when a clinician is sure they are right, but they are wrong. It creates misjudgments and mistakes. Misplaced confidence can be perilous–especially in patient care.

Amplifire has the unique power to detect and correct CHM. The platform requires learners to state their certainty when they answer questions. The system then classifies which answers were answered confidently but incorrectly–representing confidently held misinformation–and customizes a module in real time that will lead the learner to rapid mastery of the topic.

The cognitive science behind the platform has proven itself in over one billion learner interactions.

Below are the results from a typical deployment of the CAUTI course to 4,511 nurses at a large US hospital system. As you can see, CHM creeps into the minds of nearly every worker in a healthcare organization.

Knowledge and Confidence about CAUTI Before and After Amplifire

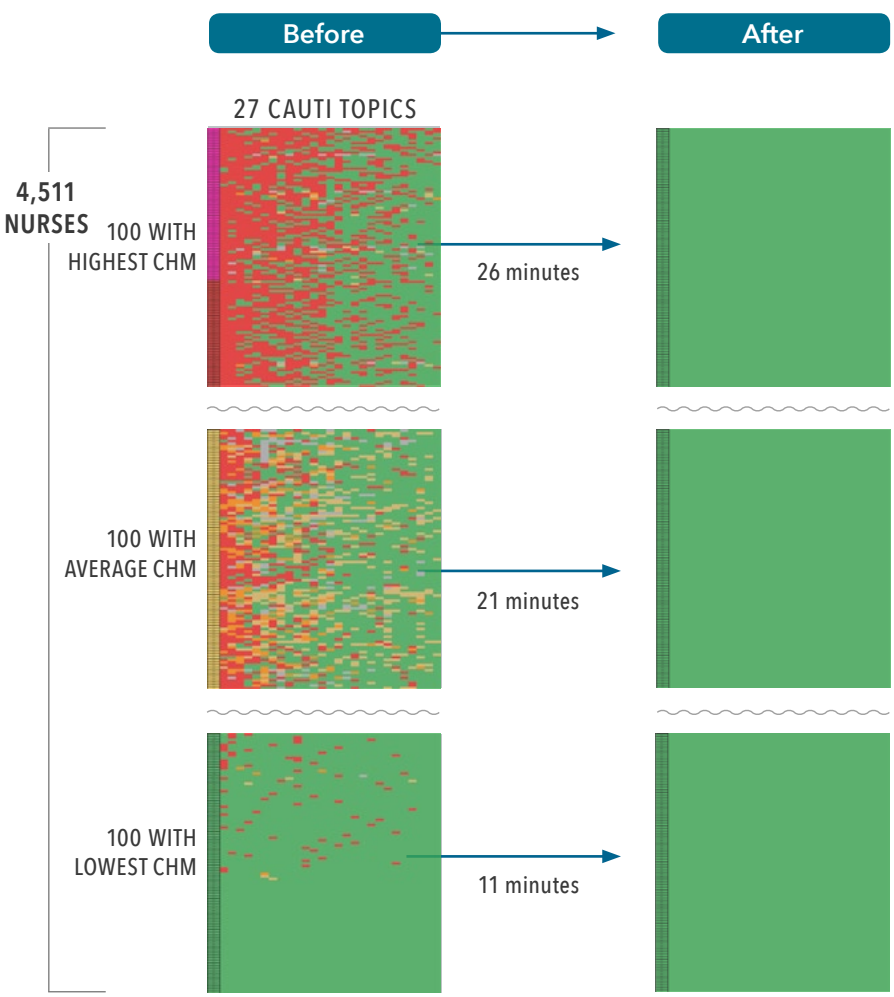
OVERALL RESULTS

Knowledge before Amplifire

- 21% Confidently Held Misinformation
- 20% Uncertainty
- 59% Confident and Correct

Observations

- 25,826 instances of confidently held misinformation were found and fixed.
- 23,752 instances of uncertainty were found and fixed.
- The variation of CAUTI knowledge was high, with some nurses misinformed and others showing confident mastery of the topic. The most knowledgeable were 100 percent confident and correct about CAUTI. The least showed that misinformation occupied up to 70% of their CAUTI knowledge.
- Nurses who were misinformed spent nearly a half hour in the module, while nurses who already knew much about CAUTI spent only 11 minutes.
- By the end of the course, 100% of the nurses who completed were confident and correct on all the information.



Communicating with Seriously Ill Patients

Clinicians who care for patients with advanced illnesses face daunting communication challenges. This course will provide clinicians with strategies for:

- Engaging in difficult conversations through active listening
- Handling emotions
- Avoiding false hope
- Remaining mindful of the patient experience

Course at a Glance

Target Audience	Clinicians
Time to Complete	30 Minutes
Learning Objectives	Communicating strategically Controlling emotions Avoiding false hope
Contributor	SynAptiv

Did you know...

- Patients commonly complain that physicians do not listen to them
- One study found that patients only recalled 40% of the information they were given, and almost half of what they thought they remembered was incorrect
- Another study found that physicians interrupted patients' initial statements 77% of the time. The average time to interruption was just 18 seconds

Author Information

The Colorado Foundation for Medical Care was founded in 1970 as a nonprofit 501(c)(3) healthcare quality improvement organization. It currently does business as (DBA) SynAptiv. SynAptiv continues to focus on continuous quality improvement, but now works toward its charitable mission in new ways. We are a global healthcare learning institute, offering a variety of educational tools, trainings, certifications and learning improvement resources for multiple professional settings.

Facility Co-developer

SynAptiv

Discussing Difficult News

Discussing difficult news is an essential skill for clinicians. It can be challenging to convey difficult information, especially when discussing a poor prognosis. Clinicians may feel inadequately prepared to handle these highly emotional situations. This course will provide clinicians with strategies for:

- Delivering difficult news
- Handling difficult conversations
- Responding to patient reactions
- Discussing a patient's prognosis

Course at a Glance

Target Audience	**Clinicians**
Time to Complete	**30 Minutes**
Learning Objectives	**Delivering difficult news** **Discussing prognosis** **Responding to patient reactions**
Contributor	**SynAptiv**

Did you know...

- In a study of oncologists, nearly 50% rated their own ability to break bad news as poor to fair
- A study of 400 doctor-patient conversations found that physicians responded to emotionally charged conversations with empathetic language only 25% of the time
- In a survey of 50 surgical physicians, 93% of respondents believed delivering bad news to be an important skill, but only 43% felt they had the training needed to effectively deliver bad news

Author Information

The Colorado Foundation for Medical Care was founded in 1970 as a nonprofit 501(c)(3) healthcare quality improvement organization. It currently does business as (DBA) SynAptiv. SynAptiv continues to focus on continuous quality improvement, but now works toward its charitable mission in new ways. We are a global healthcare learning institute, offering a variety of educational tools, trainings, certifications, and learning improvement resources for multiple professional settings.

Facility Co-developer

SynAptiv

Discussing Transitioning the Focus of Care

Patients facing advanced illness eventually reach a point when certain medical treatments no longer contribute to their quality of life, and they may desire a transition to a comfort focused approach to their care. Skilled clinicians help patients through this transition by engaging in a transition conversation at the appropriate time. This course will provide clinicians with the skills to:

- Identify when patients may be ready for a transitions conversation
- Properly structure transitions conversations
- Make recommendations that match patient goals and values with medical reality

Did you know...

- Discussing the transition to palliative care is often delayed due to physician discomfort
- According to WHO, 86% of people who need palliative care do not receive it

Course at a Glance

Target Audience	Clinicians
Time to Complete	30 Minutes
Learning Objectives	Appropriate timing Conversation structure Setting goals & expectations
Contributor	SynAptiv

Author Information

The Colorado Foundation for Medical Care was founded in 1970 as a nonprofit 501(c)(3) healthcare quality improvement organization. It currently does business as (DBA) SynAptiv. SynAptiv continues to focus on continuous quality improvement, but now works toward its charitable mission in new ways. We are a global healthcare learning institute, offering a variety of educational tools, trainings, certifications, and learning improvement resources for multiple professional settings.

Facility Co-developer

SynAptiv

How to Conduct a Family Meeting

Palliative care physician Susan Block comments, "A family meeting is a procedure, and it requires no less skill than performing an operation." Yet, many clinicians do not approach family meetings with the skill and structure that will make them effective. This course will provide clinicians with the skills and framework to:

- Conduct a family meeting
- Determine what the patient and family already know
- Establish shared goals
- Approach difficult situations that may arise during these conversations
- CME/CEU credits available.

Course at a Glance

Target Audience	**Clinicians**
Time to Complete	**30 Minutes**
Learning Objectives	**Conducting a meeting** **Handling difficult conversations** **Establishing shared goals**
Contributor	**SynAptiv**

Did you know...

- Family meetings have been shown to improve concordance of care with expressed wishes and to reduce posttraumatic stress disorder, anxiety, and depression among bereaved family members
- By their own estimate, 38% of the families of patients cared for at the end-of-life in hospital receive poor family support

Author Information

The Colorado Foundation for Medical Care was founded in 1970 as a nonprofit 501(c)(3) healthcare quality improvement organization. It currently does business as (DBA) SynAptiv. SynAptiv continues to focus on continuous quality improvement, but now works toward its charitable mission in new ways. We are a global healthcare learning institute, offering a variety of educational tools, trainings, certifications, and learning improvement resources for multiple professional settings.

Facility Co-developer

SynAptiv

Informed Consent

Informed consent is a crucial component of shared decision making and integral to patient-centered care. This course examines what full informed consent is and how to conduct an informed consent discussion with patients that will ensure they are able to make the best possible decision about their treatment. Topics in this course include:

- Elements that facilitate a full informed consent discussion
- Risks included in an informed consent discussion
- Opportunities for active participation by patients and persons of trust
- Patient capacity to give full informed consent
- CME/CEU credits available.

Course at a Glance

Target Audience	**Clinicians**
Time to Complete	**30 Minutes**
Learning Objectives	**Facilitating discussion** **Knowing patient capacity** **Understanding risks**
Contributor	**SynAptiv**

Did you know...

- Patients wish to be fully informed and to play an active part in making decisions about their treatment
- Studies have found that clinicians ask for patient preferences in medical decisions only about half the time

Author Information

The Colorado Foundation for Medical Care was founded in 1970 as a nonprofit 501(c)(3) healthcare quality improvement organization. It currently does business as (DBA) SynAptiv. SynAptiv continues to focus on continuous quality improvement, but now works toward its charitable mission in new ways. We are a global healthcare learning institute, offering a variety of educational tools, trainings, certifications, and learning improvement resources for multiple professional settings.

Facility Co-developer

SynAptiv

Informed Partnerships: The Process of Shared Decision Making

When patients are part of the decision making process, they are more likely to understand their treatment and follow through on what they must do. Informed Consent is a crucial part of shared decision making. Informed consent isn't just a paper to be signed– it's a discussion between doctor and patient. This course is made up of three modules:

- *Shared Decision Making Part 1* presents information about the process of shared decision making and how this will improve communication and facilitate patient engagement.
- *Shared Decision Making Part 2* provides strategies to develop open, trusting communication with patients and help them become engaged in their own healthcare decisions.
- *Informed Consent* examines what full informed consent is and how to conduct an informed consent discussion with patients that will ensure they are able to make the best possible decision about their treatment.
- CME/CEU credits available.

Course at a Glance

Target Audience	**Clinicians**
Time to Complete	**30 Minutes each**
Learning Objectives	**Engaging patients** **Facilitating discussion** **Building trust**
Contributor	**SynAptiv**

Did you know...

- Research indicates that the average patient asks five or fewer questions during a 15-minute doctor's visit
- An AHRQ public service announcement noted that people ask more questions when buying a cell phone or ordering a meal than they do during medical appointments
- Studies have found that clinicians ask for patient preferences in medical decisions only about half the time
- Results from more than a hundred randomized trials provide no robust evidence that more time is required to engage in shared decision making in clinical practice than to offer usual care
- Patients wish to be fully informed and to play an active part in making decisions about their treatment

Author Information

The Colorado Foundation for Medical Care was founded in 1970 as a nonprofit 501(c)(3) healthcare quality improvement organization. It currently does business as (DBA) SynAptiv. SynAptiv continues to focus on continuous quality improvement, but now works toward its charitable mission in new ways. We are a global healthcare learning institute, offering a variety of educational tools, trainings, certifications, and learning improvement resources for multiple professional settings.

Facility Co-developer

SynAptiv

Shared Decision Making

Shared decision making is an interactive process in which clinicians and patients make decisions together about tests, treatments, and disease management. The modules in this course can be purchased separately or as a 2-module bundle.

- Part 1 presents information about the process of shared decision making and how this will improve communication and facilitate patient engagement.
- Part 2 provides strategies to develop open, trusting communication with patients and help them become engaged in their own healthcare decisions.

Course at a Glance

Target Audience	**Clinicians**
Time to Complete	**60 Minutes each**
Learning Objectives	**Informing patients** **Facilitating engagement** **Building trust**
Contributor	**SynAptiv**

Did you know...

- Research indicates that the average patient asks five or fewer questions during a 15-minute doctor's visit
- An AHRQ public service announcement noted that people ask more questions when buying a cell phone or ordering a meal than they do during medical appointments
- Studies have found that clinicians ask for patient preferences in medical decisions only about half the time
- Results from more than a hundred randomized trials provide no robust evidence that more time is required to engage in shared decision making in clinical practice than to offer usual care

Author Information

The Colorado Foundation for Medical Care was founded in 1970 as a nonprofit 501(c)(3) healthcare quality improvement organization. It currently does business as (DBA) SynAptiv. SynAptiv continues to focus on continuous quality improvement, but now works toward its charitable mission in new ways. We are a global healthcare learning institute, offering a variety of educational tools, trainings, certifications, and learning improvement resources for multiple professional settings.

Facility Co-developer

SynAptiv

Can't Miss Diagnoses: Aortic Dissection

The Can't Miss Diagnosis series focuses on diseases that are relatively rare, difficult to diagnose, and catastrophic when diagnosis and treatment are delayed. The key to good outcomes for these diseases is to be prepared in advance to recognize and treat them, and to address individual cases with a high index of suspicion for disorders that are infrequently seen.

Aortic dissection is rare, but complications develop rapidly, and the outcome is often fatal. In an aortic dissection, a break in the inner wall of the aorta allows blood to surge between the inner and outer layers of the aortic wall. The blood under pulse pressure dissects the middle layer of the aorta, creating a propagating split in the aortic wall. Aortic dissection is survivable, but it requires rapid expert diagnosis and treatment.

Course at a Glance

Target Audience	**Clinicians**
Time to Complete	**30 Minutes**
Learning Objectives	**Recognizing early signs** **Maintaining suspicion of AD** **Ordering imaging appropriately**
Contributor	**Swedish Medical Center**

Did you know...

- Mortality is 40% on presentation of aortic dissection, plus 1–2% with each passing hour
- 39% of aortic dissection cases are only recognized >24 hours after admission—very late!—and 20–40% are diagnosed at autopsy
- Outcomes improve sharply with prompt surgery, falling to 15–20% mortality at one month and 45% at ten years

Author Information

Course development guided by the expertise of Dr. Per Danielsson, who is a board-certified internist at Swedish Medical Center in Seattle, WA. In his *Can't Miss Diagnoses* courses, Dr. Danielsson shares his deep expertise in identifying endangered patients, treating underlying causes, and responding to challenging cases by navigating through a variety of therapy options. Good outcomes in these cases require swift, well-informed diagnosis and treatment.

Facility Co-developer

Swedish Medical Center, Providence Health & Services

Can't Miss Diagnoses: Epidural Abscess

The Can't Miss Diagnosis series focuses on diseases that are relatively rare, difficult to diagnose, and catastrophic when diagnosis and treatment are delayed. The key to good outcomes for these diseases is to be prepared in advance to recognize and treat them, and to address individual cases with a high index of suspicion for disorders that are infrequently seen.

Epidural abscess (EA) can injure the spinal cord by compressing it or blocking blood flow. Neurological deficits may improve remarkably when compression is relieved, but if diagnosis and treatment are delayed, catastrophic and irreversible damage can occur in mere hours.

When you finish this course, you will know the classic symptoms of EA and be forewarned about the conditions that mimic or mask EA. You will be familiar with the all-important risk factors (nearly all EA patients fall in one of the risk-factor groups) and will have confident knowledge of the essentials of prompt treatment.

Course at a Glance

Target Audience	**Clinicians**
Time to Complete	**30 Minutes**
Learning Objectives	**Classic symptoms** **Similar conditions** **Risk factor groups**
Contributor	**Swedish Medical Center**

Did you know...

- The number of EA diagnoses has doubled in the past 20 years (from 2 to 4 cases per 10,000 admissions)
- Nearly 75% of EA cases are initially misdiagnosed
- At UC San Diego Medical Center, delayed diagnosis was reduced to 10% after implementation of the diagnosis and treatment guidelines presented in this course

Author Information

Course development guided by the expertise of Dr. Per Danielsson, who is a board-certified internist at Swedish Medical Center in Seattle, WA. In his *Can't Miss Diagnoses* courses, Dr. Danielsson shares his deep expertise in identifying endangered patients, treating underlying causes, and responding to challenging cases by navigating through a variety of therapy options. Good outcomes in these cases require swift, well-informed diagnosis and treatment.

Facility Co-developer

Swedish Medical Center, Providence Health & Services

Can't Miss Diagnoses: Necrotizing Fasciitis

The Can't Miss Diagnosis series focuses on diseases that are relatively rare, difficult to diagnose, and catastrophic when diagnosis and treatment are delayed. The key to good outcomes for these diseases is to be prepared in advance to recognize and treat them, and to address individual cases with a high index of suspicion for disorders that are infrequently seen.

Necrotizing fasciitis (NF) is a devastating threat to life and limb that is too often mistaken for a superficial skin infection. Mere hours of delay in treating NF with emergency surgical debridement can result in repeated surgeries—5, 10, even 40 returns to the operating room—ending in massive loss of tissue and function, disfigurement, and often amputation of an affected limb.

In this course, you will learn about the signs and symptoms of NF and the appropriate emergency management to achieve best outcomes.

Course at a Glance

Target Audience	**Clinicians**
Time to Complete	**30 Minutes**
Learning Objectives	**Classic signs & symptoms** **Similar soft tissue infections** **Emergency management**
Contributor	**Swedish Medical Center**

Did you know...

- Only 15–34% of patients with NF receive an accurate admitting diagnosis
- 1/3 of patients with NF die
- NF is occurring more frequently due to the increase in immunocompromised patients with diabetes, cancer, transplants, HIV, and neutropenia

Author Information

Course development guided by the expertise of Dr. Per Danielsson, who is a board-certified internist at Swedish Medical Center in Seattle, WA. In his *Can't Miss Diagnoses* courses, Dr. Danielsson shares his deep expertise in identifying endangered patients, treating underlying causes, and responding to challenging cases by navigating through a variety of therapy options. Good outcomes in these cases require swift, well-informed diagnosis and treatment.

Facility Co-developer

Swedish Medical Center, Providence Health & Services

Cognitive Bias in Decision Making

At its most useful, the differential test for spotting cognitive bias is not a process of elimination, but a process of inclusion. Identify biases by knowing their feathers and stripes. This course is not a vocabulary test. It's a field guide for spotting and naming cognitive bias in the medical context. This course examines a host of different biases and the affects they have on medical diagnoses and decision-making.

Course at a Glance

Target Audience	**Physicians**
Time to Complete	**30 Minutes**
Learning Objectives	**Identifying cognitive bias** **Bias in decision-making** **Avoiding over-testing**
Contributor	**Joe Grubenhoff, MD**

Did you know...

- Cognitive bias may contribute to health care disparities by shaping physician behavior and producing differences in medical treatment along the lines of race, ethnicity, gender or other characteristics
- Courses that teach intercultural communication are now a part of the medical school educational standards set for all accredited medical schools in the United States and Canada
- Diagnostic errors are associated with 6–7% of adverse events, and 28% of diagnostic errors have been attributed to cognitive error

Author Information

Dr. Joseph Grubenhoff, MD is a pediatric emergency medicine doctor in Aurora, Colorado and is affiliated with Children's Hospital Colorado. He received his medical degree from Saint Louis University School of Medicine.

Facility Co-developer

Children's Hospital Colorado

Essentials of Hospice and Palliative Care

The American Academy of Hospice and Palliative Medicine's 9-module Primer provides a critical foundation for practitioners who want to understand the principles of hospice and palliative medicine. The modules in this course can be purchased separately or as a 9-module bundle.

- The Hospice and Palliative Care Approach to Serious Illness (Essentials 1)
- Alleviating Psychological and Spiritual Pain (Essentials 2)
- Assessing and Treating Pain (Essentials 3)
- Managing Nonpain Symptoms (Essentials 4)
- Communication and Teamwork (Essentials 5)
- Ethical and Legal Issues (Essentials 6)
- Caring for People with HIV/AIDS (Essentials 7)
- Caring for Pediatric Patients (Essentials 8)
- Caring for Patients with Chronic Illnesses: Dementia, COPD, and CHF (Essentials 9)

Course at a Glance

Target Audience	**Practitioners**
Time to Complete	**30 Minutes each**
Learning Objectives	**Hospice & palliative care principles** **Pain management** **Ethical & legal issues**
Contributor	**AAHPM**

Did you know...

- In 2014, about 67,000 paid, regulated long-term care services providers served about 9 million people in the United States
- In 2015, hospice patients received a total of 96,052,577 days of care paid for by Medicare

Author Information

The American Academy of Hospice and Palliative Medicine (AAHPM) is the professional organization for physicians, nurses, and other healthcare providers specializing in hospice and palliative medicine. Since 1988, AAHPM has dedicated itself to advancing hospice and palliative medicine and improving the care of patients with serious illness.

Facility Co-developer

American Academy of Hospice and Palliative Medicine (AAHPM)

Introduction to Rehabilitation Nursing

This course from the Association of Rehabilitation Nursing (ARN) is ideal for individual nurses seeking to develop a foundation in rehabilitation nursing, as well as for units and facilities looking to provide consistent, flexible, and personalized rehabilitation nursing training to their staff. The modules in this course can be purchased separately or as a 16-module bundle.

- Introduction to Rehabilitation
- Disability
- Safe Patient Handling
- Communication
- Patient & Family Education
- Pain Management
- Musculoskeletal & Body Mechanics
- Autonomic Dysreflexia
- Neuropathophysiology
- Dysphagia
- Bladder Management
- Bowel Management
- Skin Integrity & Wound Care
- Sexuality
- Pediatrics
- Gerontology

Nurses can earn a total of 12 CHs of continuing nursing education credit.

Did you know...

Rehabilitation Nurses…

- Show patients how to adapt to temporary or permanent disabilities
- Prepare patients and their families for rehabilitation challenges
- Help patients return to their daily lives

Course at a Glance

Target Audience	**Nurses**
Time to Complete	**30 Minutes each**
Learning Objectives	**Patient and family communication** **Rehabilitation challenges** **Goal setting techniques**
Contributor	**ARN**

Author Information

In 1974, the Association of Rehabilitation Nurses (ARN) was formed by Susan Novak with support from Lutheran General Hospital located in Park Ridge, Illinois, and nursing, which had always been involved in rehabilitation, formally became recognized as a rehabilitation specialty. ARN was formally recognized as a specialty nursing organization by the American Nurses Association in 1976.

Facility Co-developer

Association of Rehabilitation Nurses (ARN)

Management of Type 2 Diabetes Mellitus

Adherence to glucose-lowering medications is low. A report that examined the medication adherence patterns of patients with type 2 diabetes from 2012–2014 found that only 18% of 4,000 patients adhered to their medication regimens over the entire three-year study.

Physicians must become familiar with all the glucose-lowering medication options in order to prescribe medication regimens that address their patients' specific needs and that patients will actually follow.

In this course, you will learn about the various types of glucose-lowering pharmacological agents, their side effects, and the considerations that guide the use of each.

Course at a Glance

Target Audience	**Physicians**
Time to Complete	**30 Minutes**
Learning Objectives	**Newer pharmacological agents** **Medication side effects** **Insulin considerations**
Contributor	**Massachusetts General Hospital**

Did you know...

- The International Diabetes Federation (IDF) estimates that 415 million people had diabetes in 2015 (expected to increase to 642 million by 2040)
- Type 2 diabetes mellitus accounts for 85–95% of all diabetes cases

Author Information

Course development guided by the expertise of

- Enrico Cagliero, MD
- Stephanie Eisenstat, MD

Facility Co-developer

Massachusetts General Hospital, Partners Healthcare

Restorative Nursing Assistant

ARN's Restorative Nursing Assistant Course is ideal for facilities looking to provide flexible and personalized core training to their nursing assistant staff, as well as individual nursing assistants seeking to develop a foundation in restorative nursing practice. The full course is made up of 5 modules, each focusing on a set of restorative nursing topics or concepts, mirroring the content of the *ARN Restorative Nursing: A Training Manual for Nursing Assistants* publication. The modules in this course can be purchased separately or as a 5-module bundle.

- Philosophy of Restorative Nursing, Dispelling the Myths
- Mobility & Activities of Daily Living
- Swallowing/Communication & Cognition
- Bladder, Bowel, & Skin Care
- Therapeutic Activities & Caregiver Challenges

Course at a Glance

Target Audience	**Nurses**
Time to Complete	**30 Minutes each**
Learning Objectives	**Principles of restorative care** **Improving quality of life** **Caregiving challenges**
Contributor	**ARN**

Did you know...

- Two factors—longer life spans and aging baby boomers—will combine to double the population of Americans aged 65 years or older during the next 25 years
- By 2030, older adults will account for roughly 20% of the US population
- Due to the effects of chronic diseases on an aging population, the need for caregiving for older adults by formal, professional caregivers will increase sharply during the next several decades

Author Information

In 1974, the Association of Rehabilitation Nurses (ARN) was formed by Susan Novak with support from Lutheran General Hospital located in Park Ridge, Illinois. Nursing, which had always been involved in rehabilitation, formally became recognized as a rehabilitation specialty. ARN was formally recognized as a specialty nursing organization by the American Nurses Association in 1976.

Facility Co-developer

Association of Rehabilitation Nurses (ARN)

Sepsis: Recognizing and Managing

Sepsis is a life-threatening condition that occurs when the mediators of inflammation provoke a system-wide response. If sepsis progresses to severe sepsis (defined as sepsis with signs of organ dysfunction), clinical support of organ function becomes critically necessary.

The goal of treatment in severe sepsis is to prevent organ dysfunction from becoming organ damage. The onset of multiple organ failures can lead to cascading crises, septic shock, and mortality rising to 50%.

The key to conquering sepsis is to catch it when it is a complaint and before it is a crisis. Early diagnosis and treatment are the crucial factors in favorable outcomes for sepsis patients.

Course at a Glance

Target Audience	**Clinicians**
Time to Complete	**45 Minutes**
Learning Objectives	**Sources of infection** **Risk monitoring** **Fluid management**
Contributor	**Daniel Davis, MD**

Did you know...

- More than 1.2 million Americans are afflicted with sepsis every year
- Sepsis kills more than 200,000 Americans annually
- The number of hospital stays for sepsis more than doubled between 1993 and 2009
- Sepsis is the most expensive cause of hospitalization
- Sepsis causes over 50% of hospital deaths
- Every hour of missing the diagnosis increases mortality by 8%

Author Information

Amplifire courses are created in collaboration with Alliance experts, reviewed often, and updated regularly. This course was developed in collaboration with Alliance members, then revised by Dr. Scott de la Cruz, MD, MPH. In addition to primary care, Dr. de la Cruz provides clinical and classroom instruction and mentorship to learners at all levels of medical training. He is a member of the Academy of Medical Educators Executive Committee, the Palliative Care Partners Executive Committee, the Life Quality Institute of Colorado, the Palliative Care Champions Committee, and the Advisory College Program.

After piloting, the course was revised in collaboration with Daniel Davis, MD, founder of the Center for Resuscitation Science at the University of California, San Diego (UCSD). We thank two expert reviewers with worldwide eminence in the sepsis community, Dr. Paul Marik and Dr. Simon Finfer, for thoughtful critical comments and guidance in dealing with the most current issues in sepsis management.

Traumatic Brain Injury and Agitation

Agitation is a symptom that frequently complicates the care of patients with traumatic brain injury (TBI). Agitated patients are predisposed to negative functional outcomes and increased risk for themselves, their families, and their caregivers. Optimal management of posttraumatic agitation is an important aspect of rehabilitation in this patient population.

TBI management and treatment can also be complicated by the presence of pseudobulbar affect (PBA). The incidence of PBA is considered to be widely under-recognized due to the limited awareness of this condition and frequent confusion with other neuropsychiatric conditions, including post-traumatic agitation.

Treatment of agitated patients includes environmental adaptation, thoughtful medication decisions, and frequent reassessment for continuing or worsening symptoms.

Course at a Glance

Target Audience	**Clinicians**
Time to Complete	**30 Minutes**
Learning Objectives	**Environmental considerations** **Risk of misdiagnosis** **Appropriate prescribing**
Contributor	**Spaulding Rehabilitation Hospital**

Did you know...

- The CDC estimates that in 2010, TBIs accounted for approximately 2.5 million ED visits, hospitalizations, and deaths in the United States
- The percentage of patients with TBI reported to suffer from agitation ranges from 11% to 70%, with a mean incidence of 46%
- Studies have shown that TBI patients who experience agitation experience longer hospital stays and poorer outcomes

Author Information

Course development guided by the expertise of

- Liz Adamova, DO
- Adrienne Sarnecki, RN, MSN, CRRN
- Rosse Zafonte, DO

Facility Co-developer

Spaulding Rehabilitation Hospital, Partners Healthcare

Antimicrobial Stewardship

Prompt administration of antibiotics has been shown to improve patient outcomes in a number of diseases from sepsis to *C. difficile* infections. However, the CDC estimates that 20–50% of antibiotics are unnecessary or inappropriate. Such antibiotic misuse has resulted in strains of drug-resistant bacteria that hinder and even prevent the treatment of common infectious diseases.

In this course, you will learn about:

- Balancing risk and patient need when prescribing antibiotics
- Alternatives to antibiotics for some patients
- Talking to patients and families and setting expectations
- The right antibiotic for the right patient at the right time

Course at a Glance

Target Audience	Clinicians
Time to Complete	30 Minutes
Learning Objectives	Antibiotic risks Antibiotic alternatives Balancing risks & benefits
Contributor	Morgan Ryan

Did you know...

- Each year in the United States, at least 2 million people become infected with bacteria that are resistant to antibiotics
- At least 23,000 people die each year as a direct result of antibiotic-resistant bacterial infections

Author Information

Course development was guided by the expertise of Morgan Ryan, Amplifire's Editorial Director. Morgan specializes in medical, life science, and biology course development, including the world's most widely circulated biology textbook, *E.O. Wilson's Life on Earth*. Morgan is the editor of Amplifire's Recognizing and Managing Sepsis course.

CAUTI Prevention

This course recruits learners to become part of the battle against catheter-associated urinary tract infections (CAUTI), the leading cause of avoidable patient harm. There are three keystones for controlling CAUTI:

- Use indwelling catheters only when appropriately indicated
- Use proper technique for insertion and maintenance
- Remove catheters when they are no longer indicated

A short bundle of protocols has been shown to be the most valuable tool in bringing these infections under control. CAUTI can be defeated. Multiple studies have shown that the prevalence of CAUTI can be reduced in hospital systems by 45% or more using the strategies taught in this course.

Course at a Glance

Target Audience	**Nurses**
Time to Complete	**25 Minutes**
Learning Objectives	**Appropriate catheter use** **Proper technique** **Regular removal assessment**
Contributor	**Intermountain Healthcare**

Did you know...

- About 30 million Foley catheters are inserted each year in the United States
- Every year, 1 million CAUTIs occur
- CAUTIs extend hospital stays by 2–3 extra days, at a cost of about $0.5 billion each year
- Studies regularly find that as many as 50% of indwelling catheters in patients are unnecessary

Author Information

Course development guided by the expertise of Cherie Frame RN, MSN, CIC, who is the Infection Prevention Director for Intermountain Healthcare. Her portfolio of expertise includes, besides nursing, Critical Care, PICC line team, OR Nurse, Clinic Nurse, Care Management, Infection Prevention, and Nursing Leadership. She obtained her BSN from Brigham Young University and completed her MSN degree from Western Governors University. She obtained her National Certification in Infection Control and is a member of APIC.

Facility Co-developer

Intermountain Healthcare

CLABSI Prevention

Central venous catheters (CVCs) are used for the administration of intravenous fluids, blood products, medications, and parenteral nutrition, and they provide access for hemodialysis and other forms of long-term treatment, such as chemotherapy.

Widespread and essential, CVCs are also the most frequent cause of healthcare-associated bloodstream infections. Central line–associated bloodstream infections (CLABSIs) are often preventable, and rates can be reduced, if not eliminated, by adherence to evidence-based guidelines.

This course reviews best practices, including relatively simple interventions such as sterile technique, disinfection, and (most critically!) hand hygiene, as well as more sophisticated interventions, such as the use of antimicrobial lock solutions and line materials.

Course at a Glance

Target Audience	**Nurses**
Time to Complete	**30 Minutes**
Learning Objectives	**Routes of CVC Infection** **Sites for CVC insertion** **Antimicrobial lock solutions**
Contributor	**Intermountain Healthcare**

Did you know...

- It is estimated that 250,000 cases of CLABSI occur in the United States every year
- The CDC estimates that CLABSIs are associated with a mortality rate of 12–25%
- Each CLABSI episode is estimated to cost between $3,700 and $39,000, which includes the burdens of additional diagnosis and treatment, and prolonged hospital stays

Author Information

Course development was guided by the expertise of the caregivers at Intermountain Healthcare.

Facility Co-developer

Intermountain Healthcare

Preventing and Managing *C. difficile* Infection (CDI)

C. difficile is a gram-positive, spore-forming bacterium that causes serious disease ranging from diarrhea to potentially lethal pseudomembranous colitis.

The rate of *C. difficile* infections (CDIs) has been rising steadily since 2000, complicated by the emergence of virulent new strains. One of the major risk factors for development of CDI is exposure to antibiotics, which alter the normal gut flora and allow *C. difficile* to cause disease.

In this course, you will learn about evidence-based prevention and management of CDI.

Course at a Glance

Target Audience	**Nurses**
Time to Complete	**30 Minutes**
Learning Objectives	**Required PPE** **CDI testing** **Principal risk factors**
Contributor	**Morgan Ryan**

Did you know...

- According to the CDC, *C. difficile* was estimated to cause almost half a million infections in the United States in 2011
- 29,000 of these patients died within 30 days of the initial diagnosis
- CDIs put an estimated burden of over $6.3 billion per year on the US health system, with costs attributable to CDI at over $21,000 per case

Author Information

Course development was guided by the expertise of Morgan Ryan, Amplifire's Editorial Director. Morgan specializes in medical, life science, and biology course development, including the world's most widely circulated biology textbook, *E.O. Wilson's Life on Earth*. Morgan is the editor of Amplifire's Recognizing and Managing Sepsis course.

Preventing Surgical Site Infections

Surgical site infections (SSIs) are infections of the incision or organ/space occurring after surgery. SSIs have a high cost, both in patient lives and cost of care.

This course examines a wide range of SSI prevention strategies, including proper and timely antibiotic use, meticulous environmental and surgical site disinfection, and effective patient temperature and glucose maintenance.

Course at a Glance

Target Audience	**Nurses**
Time to Complete	**30 Minutes**
Learning Objectives	**Initiating prophylactic antibiotics** **Environmental disinfection** **Temperature & glucose maintenance**
Contributor	**Providence Health & Services**

Did you know...

- SSIs are the most common nosocomial infection in the United States, accounting for 20% of all hospital-acquired infections (HAIs)
- SSIs are associated with a 2- to 11-fold higher risk of patient mortality and an average increased cost of $20,000 per infection
- It is estimated that 60% of SSIs could be prevented if individuals adhered to evidence-based guidelines

Author Information

Course development was guided by the expertise of

- Kari Love, RN, MS, CIC, FAPIC
- Rebecca "Becca" Bartles, MPH, CIC
- Laura Staubitz, MEd, BSN, RN, CIC
- Paula Yackley, BSN, RN, CPAN

Facility Co-developer

Providence Health & Services

Safe Injection Practices

Nearly all caregivers who deliver injections believe their technique is proper and safe. It isn't so. In June 2014, the Joint Commission issued a Sentinel Event Alert raising the alarm about ongoing findings that unsafe injection practices are widespread, resulting in intolerable harm to patients. The Joint Commission Alert followed a survey of 5446 healthcare practitioners in which those surveyed self-reported that:

- 15% used the same syringe to re-enter multidose vials for the same patient
- 6% sometimes or always use single-dose vials for multiple patients
- 1.1% reported saving those reused vials for other patients
- 1% sometimes or always reuse a syringe on a second patient after changing the needle

Infection caused by unsafe injection practices is a Never Event. It is entirely preventable and should never occur. The key to safe injections is education and uncompromising adherence to published guidelines and recommended procedures.

Did you know...

- There have been at least 50 major outbreaks due to unsafe injection practices since 2001
- Hundreds have been harmed and some killed
- Over 150,000 patients required notification to undergo testing because of potential exposure
- A study by CDC and CMS found that 66% of certified surgical centers had lapses in basic infection control

Course at a Glance

Target Audience	**Nurses**
Time to Complete	**35 Minutes**
Learning Objectives	**Recommended procedures** **Risks of reusing vials** **Risks of reusing syringes**
Contributor	**DICON**

Author Information

Course development guided by the expertise of Daniel J. Sexton, MD, FIDSA, FSHEA, Director of Duke Infection Control Outreach Network (DICON).

Facility Co-developer

Duke Infection Control Outreach Network (DICON)

Opioids: Safe Use and Management

Of the 20.5 million Americans 12 or older that had a substance use disorder in 2015, 2 million had a substance use disorder involving prescription pain relievers and 591,000 had a substance use disorder involving heroin. In 2015, 20,101 overdose deaths related to prescription pain relievers, and 12,990 overdose deaths related to heroin. In October 2017, President Trump declared the opioid epidemic a national public health emergency.

Physicians find themselves at the epicenter of this storm, buffeted on one side by public opinion and policy, and thrown about on the other side by their patients' needs and desires. This course explores:

- Assessing pain and establishing patient expectations
- Proper medication choice, dosing, and titration
- Opioid tolerance, dependence, pseudo addiction, and addiction
- Complex patient presentations (benzodiazepines, methadone, naloxone, suboxone)
- National opioid prescribing guidelines and legal considerations (PDMPs, diversion, state prescribing limitations)

Course at a Glance

Target Audience	**Physicians**
Time to Complete	**60 Minutes**
Learning Objectives	**Assessing pain** **Setting patient expectations** **Understanding laws & recommendations**
Contributors	**Partners Healthcare**

Did you know...

- According to the CDC, about 20% of patients presenting to physicians with pain-related diagnoses (not including cancer) receive an opioid prescription
- In 2012, healthcare providers wrote 259 million prescriptions for opioid pain medication
- From 1999 to 2014, more than 165,000 persons died from overdose related to opioid pain medication in the US

Author Information

Partners Healthcare is a not-for-profit health care system that is committed to patient care, research, teaching, and service to the community locally and globally.

Facility Co-developer

Partners Healthcare

Perioperative Mastery Program

This 16-module Perioperative Mastery Program drives high-quality surgical care by providing surgical nurses with the most current evidence-based clinical practices from AORN's latest Guidelines for Perioperative Practice.

The modules in this course can be purchased separately or as a 16-module bundle.

- Hand Hygiene in the Perioperative Setting
- High-level Disinfection
- Environmental Cleaning
- Malignant Hyperthermia
- Moderate Sedation
- Older Adult
- Positioning
- Preoperative Patient Skin Antisepsis
- Preventing Unplanned Perioperative Hypothermia
- Prevention of Deep Vein Thrombosis
- Prevention of Retained Surgical Items
- Radiation Safety
- Safe Environment of Care
- Sterilization in the Perioperative Setting
- Surgical Attire
- Transmissible Infections

Did you know...

- According to the latest data from the CDC, around 51 million inpatient surgical procedures were performed in the United States in 2010
- Surgical procedures are fraught with risk…
  - Surgical site infections (SSIs) are the most common nosocomial infection in the United States, accounting for 20% of all hospital-acquired infections
  - From 2005 to 2012, 772 incidents of retained surgical items (RSI) were reported to the Joint Commission's Sentinel Event database

Course at a Glance

Target Audience	**Nurses**
Time to Complete	**30 Minutes each**
Learning Objectives	**Antisepsis and disinfection** **Perioperative normothermia** **Evidence-based surgical practices**
Contributor	**AORN**

Author Information

Founded in 1949, AORN (Association of periOperative Registered Nurses) unites and empowers surgical nurses, health care organizations, and industry to define standardized practice for perioperative professionals.

Facility Co-developer

AORN

Preventing Patient Falls

The Center for Medicare and Medicaid Services has determined that inpatient falls are an entirely preventable hospital-acquired condition (HAC) and does not reimburse for patient falls. The reality is that care providers cannot prevent all falls. This course will help you to do everything possible to drive the risk of falls as close as possible to zero.

In this course, you'll learn about risk factors that contribute to falls and evidence-based strategies for preventing falls. Screening and assessment of fall risk should occur with every patient admission, but it should not end with admission. A patient's fall risk is highly variable. Any patient may be at sudden, increased risk due to physiological changes, medication side effects, and the effects of treatments.

Awareness, constant vigilance, and education are the keys to preventing patient falls.

Course at a Glance

Target Audience	**Nurses**
Time to Complete	**30 Minutes**
Learning Objectives	**Fall risk factors** **Evidence-based prevention strategies** **Regular fall assessment**
Contributor	**Intermountain Healthcare**

Did you know...

- Every 29 minutes, an older adult dies from a fall
- 1/3 of people age 65 and older fall each year
- Less than 50% of the Medicare beneficiaries who fell in the previous year talked to their healthcare provider about it
- More than 2 million older adults are treated in emergency departments for nonfatal fall injuries each year
- On average, fall injuries cost hospitals $14,000 per case, and falls cost $19 billion annually in direct costs

Author Information

Course development was guided by the expertise of Jean Bigelow RN, MN, who is an expert in fall prevention, having worked as a frontline RN for 17 years and in the Quality Patient Safety arena for the past 18 years. She has participated in the Intermountain Healthcare System Fall Prevention Team to develop standard protocols for fall risk assessment, interventions, and best practices for fall reduction. In her role as the Patient Safety Coordinator for five Intermountain Healthcare facilities, she has facilitated multiple performance improvement teams working to reduce patient falls. Jean has also been involved in analyzing fall events, collecting data, creating audit tools, and organizing staff education about falls and fall prevention.

Facility Co-developer

Intermountain Healthcare

Prevention of Pressure Injuries

The key to preventing pressure injuries is prompt recognition of risk factors and early initiation of prevention measures. Key factors in assessing risk include:

- Position
- Nutrition, and
- Skin condition

Patient positioning must be monitored constantly to ensure proper offloading of bony prominences, especially for patients with a BRADEN score ≤18. Nutrition is often overlooked as a major factor in pressure injuries, whereas NPO (nothing by mouth) status, TPN (total parenteral nutrition) or tube feeds, and restricted diets increase the risk of pressure injuries for vulnerable patients and decrease their ability to heal. Skin condition is often under-assessed during nursing's head-to-toe exams—a thorough examination of the skin is a critical step in the recognition and prevention of pressure injuries.

This course will examine risk assessment and the implementation of effective prevention strategies.

Did you know...

- Each year, 2.5 million patients are affected by pressure injuries at a cost of about $12 billion
- The cost of individual cases ranges from $20,000 to $150,000
- About 60,000 patients die as a direct result of pressure injuries each year

Course at a Glance

Target Audience	**Nurses**
Time to Complete	**25 Minutes**
Learning Objectives	**BRADEN scoring** **Nutrition factors** **Patient Positioning**
Contributor	**UCHealth**

Author Information

Course development guided by the expertise of

- Victoria J. Hays, RN, MN, CNS, APRN-BC
- Erica Hamrick MSN, RN, CWON, CFCN
- Holly Tiemann, RN, BSN, CWOCN, BS
- Danielle Schloffman, RN, MSN, NE-BC
- Kelly Bookman, MD, FACEP
- Bonnie Adrian, PhD, RN
- Brittany Cyriaks, RN, BSN, CMSRN
- Jacob Knarr, RN, BSN, PCCN, CWOCN

Facility Co-developer

UCHealth

Reprocessing Endoscopes

Recently there were several outbreaks of deadly carbapenem-resistant enterobacteria (CRE) infections linked to the use of endoscopes. Endoscope manufacturers have developed revised checklists to increase the effectiveness of reprocessing. This course covers reprocessing best practices, and common errors and manufacturer warnings.

Every step of reprocessing is important, and the later steps of high-level disinfection and sterilization cannot be completely effective if the earlier steps of pre-cleaning and cleaning are not performed perfectly.

This course encourages endoscope reprocessing technicians to become defenders of patient safety for those undergoing endoscopy procedures. It emphasizes that their work must never be regarded as routine: The stakes are very high and their work is key to breaking the chain of infection transmission in a hospital setting.

Amplifire offers two versions of this course:

- Olympus Evis Exera 160VF, 160F, and Q180V Duodenovideoscopes
- Pentax ED-3460TK Video Duodenoscopes

Course at a Glance

Target Audience	**Technicians**
Time to Complete	**35 Minutes**
Learning Objectives	**Bacteria hotspots** **Reprocessing best practices** **Common errors & warnings**
Contributor	**Providence Health & Services**

Did you know...

- Carbapenem-resistant enterobacteriaceae (CRE) are now almost fully resistant to every known antibiotic, including the "antibiotics of last resort"
- Infection with CRE bacteria can result in a 50% mortality rate
- The director of the Centers for Disease Control has referred to CRE as "nightmare bacteria"
- The CDC recommends "Facilities should review all steps in duodenoscope reprocessing several times a year"

Author Information

Course development guided by the expertise of

- Jack Brandabur, MD
- Shannan Hove, RN
- Thomas Rowe, RN

Facility Co-developer

Providence Health & Services

Syringe Infusion Pump Safety

Syringe infusion pumps allow for precise delivery of concentrated IV medications at low infusion rates. However, the operation of syringe pumps is not as simple as it appears. Seemingly minor nuances of user technique can have significant clinical consequences, including delays in medication delivery, hemodynamic instability, loss of sedation, and increased pain.

Understanding how syringe pumps work is crucial to understanding how complications occur. In this course, you will learn principles and techniques that will help you deliver the best outcomes for patients.

Course at a Glance

Target Audience	**Clinicians**
Time to Complete	**30 Minutes**
Learning Objectives	**Clinical consequences** **Syringe pump mechanics** **Possible complications**
Contributor	**Massachusetts General Hospital**

Did you know...

- From 2005 through 2009, FDA received approximately 56,000 reports of adverse events associated with the use of infusion pumps, including numerous injuries and deaths
- According to the 2017 annual ECRI report, infusion pump errors are the number one health technology safety concern to watch out for
- A new multihospital study calculated that more than half of infusions of IV medications contained errors and the majority of these errors were due to deviations in hospital policy

Author Information

Course development guided by the expertise of

- Nathaniel Sims, MD
- Christopher Colvin, Clinical Engineer

Facility Co-developer

Massachusetts General Hospital, Partners Healthcare

Is this Sepsis? Recognizing and Managing Pediatric Sepsis

In this course, you will learn about recognizing and treating sepsis. It is often repeated that pediatric patients are not small adults, and the management of sepsis must take into account the patient's age, size, immune capacity, and infection-related syndromes that are specific to children. It is especially important to understand that children may experience shock differently from adults. For example, their capacity to sustain extreme tachycardia may mask deterioration until rapid decompensation leads to imminent and potentially irreversible cardiovascular collapse.

As with adults, the key to good outcomes is early recognition and prompt, evidence-based treatment. Amplifire offers three versions of this course:

- Emergency Department
- In-Patient
- Hybrid containing both Emergency and Inpatient
- Bladder, Bowel & Skin Care
- Therapeutic Activities & Caregiver Challenges

Course at a Glance

Target Audience	**Clinicians**
Time to Complete	**30 Minutes**
Learning Objectives	**Symptoms and patient age** **Symptoms and patient size** **Indications of septic shock**
Contributor	**Children's Hospital Colorado**

Did you know...

- Sepsis is the leading cause of death in children worldwide
- In a recent study, mortality associated with pediatric severe sepsis was 3.9–23%
- Many pediatric sepsis survivors develop chronic sepsis-related conditions

Author Information

Course development guided by the expertise of

- Dr. Halden Scott, MD
- Dr. Justin, MD
- Dr. Sarah Schmidt, MD

Facility Co-developer

Children's Hospital Colorado

Pediatric Opioids

America's opioid epidemic has affected both adults and children. Opioids are the most commonly abused drugs among adolescents in the USA and are the most frequent cause of serious injury or death resulting from unintentional drug poisoning. Between 2010 and 2014, 83,418 children were exposed to an opioid and almost 50% experienced poisoning.

This course explores safe pediatric opioid prescribing, including a number of challenges specific to this special population:

- Lack of evidence-based dosing recommendations for children and adolescents
- Difficulty of assessing pain in younger, pre-verbal, and communication-impaired children
- Stricter state laws on dose limitations for pediatric patients
- Restrictions on certain opioids for pediatric patients (codeine, tramadol)
- Neonatal Abstinence Syndrome (NAS)

Did you know...

- More than 100 children test positive for opioid addiction or dependency each day in US emergency departments
- In 2018, the FDA made labeling changes to prescription opioid cough and cold medicines to limit the use of products in children younger than 18 years old

Course at a Glance

Target Audience	**Physicians**
Time to Complete	**60 Minutes**
Learning Objectives	**Challenges assessing pain** **Dosing limitation & restrictions** **Neonatal Abstinence Syndrome**
Contributors	**Children's Hospital Colorado**

Author Information

As a private, not-for-profit pediatric healthcare network, Children's Hospital Colorado is 100% dedicated to caring for kids at all ages and stages of growth. With more than 3,000 pediatric specialists and more than 5,000 full-time employees, the hospital provides comprehensive pediatric care at the Anschutz Medical Campus in Aurora and several locations throughout the region.

Facility Co-developer

Children's Hospital Colorado

Preventing Pediatric CAUTI

Pediatric catheter-associated urinary tract infection (CAUTI) prevention is procedurally similar to adult CAUTI prevention. Published guidelines suggest that a bundle including practices such as minimizing the inappropriate use of urinary catheters and improving adherence to aseptic technique when placing or manipulating a catheter can be effective.

This course explores these prevention techniques in addition to special considerations that accompany the use of indwelling urinary catheters in the pediatric population:

- Family-centered care, including health literacy
- Age/developmentally-appropriate care approach
- Assessment for allergies and skin sensitivities, especially in cleansing agent choice and catheter securement
- Higher risk of self-contamination

Course at a Glance

Target Audience	**Nurses**
Time to Complete	**60 Minutes**
Learning Objectives	**Age appropriate care** **Allergy assessment** **Self-contamination risk**
Contributor	**Children's Hospital Colorado**

Did you know...

- About 30 million Foley catheters are inserted each year in the United States
- Every year, 1 million CAUTIs occur
- CAUTIs extend hospital stays by 2–3 extra days, at a cost of about $0.5 billion each year
- Studies regularly find that as many as 50% of indwelling catheters in patients are unnecessary

Author Information

As a private, not-for-profit pediatric healthcare network, Children's Hospital Colorado is 100% dedicated to caring for kids at all ages and stages of growth. With more than 3,000 pediatric specialists and more than 5,000 full-time employees, the hospital provides comprehensive pediatric care at the Anschutz Medical Campus in Aurora and several locations throughout the region.

Facility Co-developer

Children's Hospital Colorado

Preventing Pediatric CLABSI

As in adult central line associated blood-stream infection (CLABSI) prevention, adherence to evidence-based safety practices can lower the rate of and even eliminate pediatric CLABSI. However, the presence of central line catheters (CVCs) in children carry unique challenges. This course explores how:

- Pediatric catheters are smaller than adult catheters and more prone to complication.
- Child anatomy is smaller than adult anatomy, which leads to difficulties with dressings and the locations of insertion sites.
- CVCs in children have a high potential for extravasation and line migration.
- Pediatric CVCs require special attention due to the age diversity of children, their constant motion, and the difficulties of maintaining proper catheter hygiene.

Course at a Glance

Target Audience	**Nurses**
Time to Complete	**60 Minutes**
Learning Objectives	**Anatomy challenges with size** **Extravasation & line management** **Maintaining catheter hygiene**
Contributor	**Children's Hospital Colorado**

Did you know...

- It is estimated that 250,000 CLABSIs occur in the United States every year
- The CDC estimates that CLABSIs are associated with a mortality rate of 12–25%
- Each CLABSI episode is estimated to cost between $3,700 and $39,000, which includes the burdens of additional diagnosis and treatment, and prolonged hospital stays

Author Information

As a private, not-for-profit pediatric healthcare network, Children's Hospital Colorado is 100% dedicated to caring for kids at all ages and stages of growth. With more than 3,000 pediatric specialists and more than 5,000 full-time employees, the hospital provides comprehensive pediatric care at the Anschutz Medical Campus in Aurora and several locations throughout the region.

Facility Co-developer

Children's Hospital Colorado

Preventing Pediatric Pressure Injuries

Like adult pressure injury prevention, pediatric pressure injury prevention includes early risk assessment and reliably implementing prevention strategies for at-risk patients. This course examines pressure injury prevention practices including the ways pediatric pressure injury prevention differs from adult pressure injury:

- Occiput (back of the skull) rather than sacrum is the most common site of pressure injury development
- Different positioning techniques (holding the patient in the caregiver's arms)
- Special considerations for pressure-redistribution surfaces

Did you know...

- Pressure injuries can cause a lifetime of suffering, affect a child's life and body image, and in some instances cause death
- In 2013, documented incidence rates were as high as 27% in pediatric critical care settings

Course at a Glance

Target Audience	**Nurses**
Time to Complete	**60 Minutes**
Learning Objectives	**Occiput pressure injuries** **Device related pressure injuries** **Pressure-redistribution surfaces**
Contributors	**Children's Hospital Colorado**

Author Information

As a private, not-for-profit pediatric healthcare network, Children's Hospital Colorado is 100% dedicated to caring for kids at all ages and stages of growth. With more than 3,000 pediatric specialists and more than 5,000 full-time employees, the hospital provides comprehensive pediatric care at the Anschutz Medical Campus in Aurora and several locations throughout the region.

Facility Co-developer

Children's Hospital Colorado