

# L inflammation Workbook

## I inflammation: Understanding, Causes, and Treatment Options

Inflammation is a natural and essential part of the body's immune response, helping to protect against injury and infection. However, when inflammation becomes chronic or occurs inappropriately, it can lead to various health problems. In this comprehensive guide, we will explore what **I inflammation** is, its causes, symptoms, diagnosis, and effective treatment strategies.

## What Is I Inflammation?

Inflammation is a complex biological process involving immune cells, blood vessels, and molecular mediators. It is the body's way of signaling that tissues are injured, infected, or otherwise compromised.

## Definition of I Inflammation

- **I inflammation** refers to localized or systemic inflammatory responses that can be acute or chronic.
- It manifests through redness, swelling, heat, pain, and sometimes loss of function.
- While acute inflammation is protective, chronic inflammation can contribute to the development of various diseases.

## Types of Inflammation

- **Acute Inflammation:** Rapid response lasting from a few hours to days, aimed at eliminating the cause of injury.
- **Chronic Inflammation:** Long-term inflammation that persists for months or years, often associated with tissue damage and disease progression.

## Causes of I Inflammation

Understanding the root causes of inflammation is crucial for effective management. The causes can be broadly categorized into infectious, autoimmune, environmental, and lifestyle factors.

## Infections

- Bacterial infections (e.g., strep throat, abscesses)
- Viral infections (e.g., influenza, hepatitis)
- Fungal infections (e.g., candidiasis)
- Parasitic infections

## Autoimmune Disorders

- Conditions where the immune system attacks healthy tissues, such as:
  - Rheumatoid arthritis
  - Systemic lupus erythematosus
  - Inflammatory bowel disease

## Environmental Factors

- Exposure to pollutants, toxins, and chemicals
- Allergens like pollen, pet dander, or certain foods

## Lifestyle Factors

- Poor diet high in processed foods and sugar
- Sedentary lifestyle
- Chronic stress
- Smoking and excessive alcohol consumption

## Other Contributing Factors

- Obesity
- Chronic infections
- Genetic predispositions

## Symptoms of I Inflammation

Symptoms can vary depending on the location and severity of the inflammation.

## Common Signs

- Redness (erythema)
- Swelling (edema)
- Heat in the affected area
- Pain or tenderness
- Loss of function or mobility in the affected area

## Additional Symptoms in Chronic Inflammation

- Fatigue
- Fever
- Weight loss
- General malaise

## Diagnosis of I Inflammation

Diagnosing inflammation involves a combination of medical history, physical examination, and laboratory tests.

### Physical Examination

- Inspection of affected areas
- Palpation to assess warmth, swelling, and tenderness

### Laboratory Tests

- **Blood Tests:**
  - Complete blood count (CBC) to check for elevated white blood cells
  - Erythrocyte sedimentation rate (ESR) and C-reactive protein (CRP) as markers of inflammation
- **Imaging Studies:**
  - X-rays, MRI, or ultrasound to visualize tissue damage or swelling
- **Biopsies:**
  - Tissue samples to identify the cause of inflammation, especially in autoimmune or unclear cases

## Managing and Treating I Inflammation

Effective management of inflammation depends on identifying and addressing its underlying cause.

### Medical Treatments

- **Nonsteroidal Anti-Inflammatory Drugs (NSAIDs):**

- Reduce pain, swelling, and fever
- Examples: ibuprofen, naproxen, aspirin

- **Corticosteroids:**

- Potent anti-inflammatory agents used in severe cases
- Examples: prednisone, hydrocortisone

- **Disease-Modifying Anti-Rheumatic Drugs (DMARDs):**

- Used in autoimmune conditions like rheumatoid arthritis
- Examples: methotrexate, azathioprine

- **Biologic Agents:**

- Target specific immune pathways involved in inflammation
- Examples: TNF inhibitors, IL-6 inhibitors

### Lifestyle and Home Remedies

- **Diet:**

- Incorporate anti-inflammatory foods such as fruits, vegetables, nuts, fatty fish, and olive oil
- Avoid processed foods, sugar, and trans fats

- **Exercise:**

- Regular physical activity can reduce inflammation and improve overall health

- **Stress Management:**

- Practices like meditation, yoga, and deep breathing can lower inflammation levels
- **Sleep:**
- Adequate rest supports immune health and reduces inflammatory responses
- **Smoking Cessation and Alcohol Moderation:**
- Both can significantly reduce inflammatory markers

## Complementary and Alternative Therapies

- Herbal supplements like turmeric and ginger have anti-inflammatory properties.
- Acupuncture and massage therapy may help alleviate symptoms.

## Preventing I Inflammation

Prevention strategies focus on maintaining a healthy lifestyle and managing risk factors.

### Key Preventive Measures

- Eat a balanced, anti-inflammatory diet rich in fruits, vegetables, and healthy fats
- Engage in regular physical activity
- Maintain a healthy weight
- Avoid smoking and limit alcohol consumption
- Manage stress effectively
- Get adequate sleep and rest
- Monitor and control chronic health conditions like diabetes and hypertension

## When to Seek Medical Attention

While mild inflammation often resolves with home care, certain signs warrant medical evaluation:

- Persistent or worsening symptoms
- High fever
- Rapid swelling or redness
- Signs of infection such as pus or severe pain

- Symptoms indicating autoimmune diseases or systemic involvement

## Conclusion

Understanding **I inflammation** is vital for managing and preventing associated health issues. Recognizing the causes, symptoms, and treatment options allows individuals to take proactive steps towards health and wellness. Whether through medication, lifestyle modifications, or preventive measures, controlling inflammation plays a key role in maintaining overall health and preventing chronic diseases.

Remember, always consult healthcare professionals for personalized diagnosis and treatment plans tailored to your specific needs.

L inflammation is a fundamental biological response that plays a critical role in the body's defense mechanism. It is a complex process involving various cellular and molecular components designed to eliminate harmful stimuli, such as pathogens, damaged cells, or irritants, and initiate the healing process. Understanding the intricacies of inflammation is essential for appreciating its dual nature?being both protective and potentially destructive if dysregulated.

## Understanding Inflammation: An Overview

Inflammation is the body's innate response to injury or infection. It is characterized by redness, swelling, warmth, pain, and sometimes loss of function in the affected area. This process is vital for survival, facilitating the removal of harmful agents and initiating tissue repair. However, when inflammation becomes chronic or uncontrolled, it can contribute to a host of diseases, including autoimmune disorders, cardiovascular diseases, and neurodegenerative conditions.

## The Biological Mechanisms Behind Inflammation

### Initiation of Inflammation

The inflammatory response begins when tissue injury or infection triggers the release of signaling molecules known as inflammatory mediators. These include:

- Histamine: Released by mast cells, causing vasodilation and increased vascular permeability.
- Prostaglandins: Lipid compounds that promote vasodilation, pain, and fever.
- Cytokines: Such as interleukins (IL-1, IL-6) and tumor necrosis factor-alpha (TNF-?), which coordinate immune cell activity.
- Chemokines: Recruit immune cells to the site of injury.

The initial response involves vasodilation, allowing immune cells and plasma proteins to access the affected tissue, leading to redness and swelling.

## Cellular Components of Inflammation

Key immune cells involved include:

- Neutrophils: First responders that phagocytose pathogens and release enzymes and reactive oxygen species.
- Macrophages: Engulf pathogens and cellular debris; also secrete cytokines to modulate the inflammatory response.
- Lymphocytes: B cells and T cells involved in adaptive immunity.
- Eosinophils and Basophils: Play roles in allergic reactions and parasitic infections.
- Endothelial Cells: Line blood vessels, regulate the movement of immune cells into tissues.

## Resolution and Repair

Once the threat is neutralized, anti-inflammatory signals promote resolution, involving:

- Production of resolvins and lipoxins.
- Apoptosis of excess immune cells.
- Tissue regeneration and repair mechanisms.

## Types of Inflammation

Inflammation can be classified based on duration and tissue response:

### Acute Inflammation

- Rapid onset, typically lasting a few days.
- Serves as the initial defense mechanism.
- Features classic signs: redness, swelling, heat, pain.
- Examples: a cut, bacterial infection, or acute bronchitis.

### Chronic Inflammation

- Longer duration, persisting for weeks, months, or years.

- Results from persistent infections, autoimmune diseases, or prolonged exposure to irritants.
- Leads to tissue destruction and fibrosis.
- Examples: rheumatoid arthritis, inflammatory bowel disease, atherosclerosis.

## The Role of Inflammation in Disease

While inflammation is essential for health, its dysregulation can be harmful.

### Autoimmune Diseases

- The immune system erroneously targets self-antigens.
- Chronic inflammation damages tissues; examples include lupus, multiple sclerosis.

### Cardiovascular Disease

- Inflammation contributes to atherosclerotic plaque formation.
- Elevated inflammatory markers like C-reactive protein (CRP) predict cardiovascular risk.

### Neurodegenerative Disorders

- Microglial activation in the brain leads to neuroinflammation.
- Linked with Alzheimer's disease and Parkinson's disease.

### Metabolic Syndrome and Obesity

- Adipose tissue secretes inflammatory cytokines.
- Contributes to insulin resistance and type 2 diabetes.

## Markers and Detection of Inflammation

Effective diagnosis often involves measuring specific markers:

- C-Reactive Protein (CRP): Elevated in systemic inflammation.
- Erythrocyte Sedimentation Rate (ESR): Indicates ongoing inflammation.
- Pro-inflammatory cytokines: IL-6, TNF- $\alpha$  levels.
- Fibrinogen: An acute-phase protein.



Imaging techniques, like MRI or PET scans, can visualize tissue inflammation.

## Managing and Treating Inflammation

Treatment strategies aim to modulate or suppress excessive inflammation while preserving immune function.

### Pharmacological Approaches

- Nonsteroidal Anti-Inflammatory Drugs (NSAIDs): Reduce prostaglandin synthesis (e.g., ibuprofen, naproxen).
- Corticosteroids: Potent anti-inflammatory agents (e.g., prednisone).
- Disease-modifying antirheumatic drugs (DMARDs): Used in autoimmune diseases (e.g., methotrexate).
- Biologics: Target specific cytokines or immune cells (e.g., anti-TNF agents).

### Lifestyle and Dietary Interventions

- Anti-inflammatory diets: Rich in omega-3 fatty acids, antioxidants, and fiber.
- Regular exercise: Reduces systemic inflammation.
- Stress management: Chronic stress can exacerbate inflammation.
- Adequate sleep: Essential for immune regulation.

### Complementary and Alternative Therapies

- Herbal supplements like turmeric (curcumin), ginger, and boswellia may have anti-inflammatory properties.
- Acupuncture and mindfulness practices can help reduce inflammation-related discomfort.

## Research and Future Directions in Inflammation

The ongoing scientific exploration aims to develop targeted therapies with fewer side effects. Emerging areas include:

- Nanomedicine: For precise delivery of anti-inflammatory agents.
- Genetics and Personalized Medicine: Understanding individual inflammatory responses.
- Microbiome Research: Gut bacteria influence systemic inflammation.

- Biomarker Discovery: For early detection and monitoring of inflammatory diseases.

## Conclusion: Balancing Inflammation for Optimal Health

Inflammation is an indispensable component of immune defense and tissue repair. Its proper regulation ensures healing and protection against pathogens. However, when inflammation becomes chronic or uncontrolled, it can underpin a wide array of diseases. Managing inflammation involves a multifaceted approach combining pharmacology, lifestyle modifications, and ongoing research to restore balance and promote overall health. Continued advances in understanding the molecular pathways of inflammation will undoubtedly lead to more effective and personalized therapies in the future.

In summary, inflammation is a complex, dynamic process central to human health and disease. Recognizing its mechanisms, implications, and management strategies is crucial for both clinicians and individuals aiming to maintain optimal health and prevent inflammatory-related conditions.

**Question** What are the common causes of inflammation in the body? Common causes of inflammation include infections, injuries, autoimmune diseases, exposure to irritants, and chronic stress. These triggers activate the immune response, leading to inflammation as the body attempts to heal or defend itself. **How can I reduce inflammation naturally?** To reduce inflammation naturally, incorporate anti-inflammatory foods like fruits, vegetables, omega-3 fatty acids, and whole grains into your diet. Regular exercise, adequate sleep, stress management, and avoiding processed foods and sugars can also help lower inflammation levels. **What are the symptoms of chronic inflammation?** Symptoms of chronic inflammation can include persistent fatigue, body pain, joint stiffness, digestive issues, skin problems, and recurring infections. Unlike acute inflammation, chronic inflammation may persist for months or years without obvious symptoms, impacting overall health. **Can inflammation be diagnosed with blood tests?** Yes, inflammation can be assessed through blood tests such as C-reactive protein (CRP) and erythrocyte sedimentation rate (ESR). Elevated levels of these markers indicate the presence of inflammation, helping healthcare providers identify underlying causes. **What is the link between inflammation and chronic diseases?** Chronic inflammation is linked to the development of various diseases, including heart disease, diabetes, cancer, and neurodegenerative disorders. Persistent inflammation can damage tissues and organs, contributing to disease progression over time. **Are there medical treatments available for inflammation?** Yes, treatments for inflammation depend on the cause and severity. They may include anti-inflammatory medications like NSAIDs, corticosteroids, or targeted therapies for autoimmune conditions. Lifestyle changes and addressing underlying issues are also crucial for managing chronic inflammation.

**Related keywords:** inflammation, swelling, redness, pain, immune response, cytokines, infection, tissue damage, immune system, edema

## acute inflammation multiple choice questions

### Understanding Acute Inflammation Multiple Choice Questions: An In-Depth Guide

**Acute inflammation multiple choice questions** are a vital component of medical education and assessment, serving as an effective way to evaluate understanding of a complex physiological process that plays a crucial role in the body's defense mechanism. These questions help students and healthcare professionals test their knowledge of the mechanisms, phases, mediators, and clinical implications of acute inflammation. Given the intricate nature of this biological response, well-designed multiple choice questions (MCQs) can facilitate learning by highlighting key concepts and common pitfalls. This article provides a comprehensive overview of acute inflammation MCQs, covering fundamental principles, common question formats, and strategies for effective preparation.

### Fundamentals of Acute Inflammation

#### Definition and Significance

Acute inflammation is the body's immediate response to tissue injury or infection, aimed at eliminating the cause of injury, removing dead tissue, and initiating healing. It is characterized by rapid onset, short duration, and specific clinical features such as redness, swelling, heat, pain, and loss of function.

#### Key Components of Acute Inflammation

- **Vascular changes:** vasodilation and increased permeability
- **Cellular events:** recruitment of leukocytes, especially neutrophils
- **Mediators:** cytokines, chemokines, prostaglandins, leukotrienes
- **Outcome:** resolution, abscess formation, or progression to chronic inflammation

### Types and Phases of Acute Inflammation in MCQs

#### Phases of Acute Inflammation

- **Vascular phase:** characterized by vasodilation and increased permeability
- **Cellular phase:** recruitment and activation of leukocytes

#### Common MCQ Topics on Phases

- Differences between vasodilation and increased permeability
- Role of histamine, bradykinin, and prostaglandins
- Mechanisms of leukocyte recruitment (margination, rolling, adhesion, transmigration)

## Key Mediators and Cellular Players in Acute Inflammation: MCQ Focus

### Mediators of Acute Inflammation

Questions often test knowledge on specific mediators and their functions, such as:

- **Histamine:** causes vasodilation and increased permeability
- **Bradykinin:** mediates pain and vasodilation
- **Prostaglandins and leukotrienes:** involved in pain, vasodilation, and chemotaxis
- **Complement system components:** promote chemotaxis and opsonization

### Cellular Components

MCQs may include questions about the roles of various leukocytes, primarily:

- Neutrophils: first responders, phagocytosis
- Macrophages: cytokine production, cleanup, and initiation of repair
- Platelets: release of mediators and clot formation

## Common Question Formats in Acute Inflammation MCQs

### Single Best Answer Questions

This is the most common MCQ format, where the student selects the most appropriate answer from a list. These questions often test knowledge of mechanisms, clinical features, or management principles.

### True or False Questions

Useful for quick assessments of factual knowledge, such as the statement 'Histamine causes vasoconstriction?' (False).

### Matching and Fill-in-the-Blank Questions

- Matching mediators to their effects
- Filling in missing terms in descriptions of phases or mediators

## Case-Based Questions

These questions present clinical scenarios to evaluate application of knowledge, e.g., identifying the phase of inflammation based on symptoms or lab findings.

## Sample Multiple Choice Questions on Acute Inflammation

### Question 1:

Which of the following mediators is primarily responsible for vasodilation during the vascular phase of acute inflammation?

- A) Histamine
- B) Platelet-activating factor (PAF)
- C) Leukotriene B4
- D) Interleukin-1

**Answer:** A) Histamine

### Question 2:

During the cellular phase of acute inflammation, neutrophils are recruited to the site of injury. Which adhesion molecule is essential for neutrophil adherence to the endothelium?

- A) Selectins
- B) Integrins
- C) Cadherins
- D) IgG

**Answer:** B) Integrins

### Question 3:

Which of the following is a key function of macrophages during the resolution of acute inflammation?

- A) Phagocytosis of apoptotic neutrophils
- B) Release of histamine
- C) Vasoconstriction
- D) Clot formation

**Answer:** A) Phagocytosis of apoptotic neutrophils

## Strategies for Preparing Effective MCQs on Acute Inflammation

### Focus on Core Concepts

- Understand the sequence of events in acute inflammation
- Memorize key mediators and their effects
- Know the roles of different cell types
- Familiarize with clinical correlations and common presentations

### Use Clinical Scenarios

Case-based questions help in applying theoretical knowledge to real-life situations, improving critical thinking skills.

### Review Common Mistakes

- Confusing mediators and their actions
- Mixing up phases or cellular players
- Overlooking the clinical significance of inflammatory responses

## Conclusion

Mastering acute inflammation multiple choice questions requires a thorough understanding of the physiological processes, mediators, cellular mechanisms, and clinical correlations involved in this essential body response. By focusing on core concepts, practicing diverse question formats, and applying knowledge to clinical scenarios, students and professionals can enhance their understanding and perform well in assessments. Well-designed MCQs not only test knowledge but also reinforce learning, ultimately contributing to better clinical practice and patient care.

Acute inflammation multiple choice questions are a vital component of medical education, particularly in the fields of pathology, physiology, and clinical medicine. As future healthcare professionals strive to understand the complex processes involved in inflammation, mastering

multiple choice questions (MCQs) related to acute inflammation becomes essential. These questions serve not only as a means of assessment but also as a valuable learning tool, helping students to reinforce their knowledge, identify gaps, and prepare effectively for exams and clinical practice. This article provides an in-depth review of acute inflammation MCQs, discussing their structure, content areas, benefits, challenges, and best practices for both learners and educators.

## Understanding the Role of Multiple Choice Questions in Medical Education

Multiple choice questions are a widely used assessment format in medical education due to their versatility, efficiency, and ability to evaluate various levels of cognitive skills. When it comes to acute inflammation, MCQs are particularly useful because they can comprehensively cover the core concepts, such as pathophysiology, cellular mechanisms, mediators, clinical features, and complications.

### Features of Effective MCQs in Acute Inflammation

- Clarity and Precision: Questions should be straightforward, avoiding ambiguous language.
- Balanced Distractors: Incorrect options (distractors) must be plausible to challenge students and differentiate between those who understand the concepts and those who do not.
- Focus on Higher-Order Thinking: Good MCQs often test application, analysis, and synthesis rather than rote memorization.
- Alignment with Learning Objectives: Questions should directly relate to the key learning points about acute inflammation.

### Benefits of Using MCQs for Acute Inflammation

- Efficient Assessment: Cover a broad range of topics in a short time.
- Objective Grading: Eliminates grader bias.
- Immediate Feedback: Facilitates self-assessment and identifies areas for improvement.
- Preparation for Licensing Exams: Many standardized tests rely heavily on MCQs.

## Core Content Areas Covered in Acute Inflammation MCQs

Effective MCQs on acute inflammation encompass a variety of topics that reflect the multifaceted nature of this physiological response. Below, we explore the main domains typically tested.

### 1. Definitions and Basic Concepts

Questions often assess understanding of what constitutes acute inflammation, its purpose, and its distinguishing features from chronic inflammation.

Sample Question:

Which of the following best describes acute inflammation?

- A) A slow, chronic process with tissue destruction and repair
- B) A rapid, short-term response characterized by exudation and leukocyte infiltration
- C) An immune response limited to antibody production
- D) A process involving fibrosis and scar formation

Correct Answer: B

Key Points:

- Rapid and short-term
- Characterized by exudation, vasodilation, and infiltration of neutrophils

## 2. Cellular Components and Mediators

MCQs often focus on the roles of neutrophils, macrophages, mast cells, and the mediators like histamine, prostaglandins, cytokines, and chemokines.

Sample Question:

Which cell type is primarily responsible for the initial response in acute inflammation?

- A) Lymphocytes
- B) Neutrophils
- C) Eosinophils
- D) Fibroblasts

Correct Answer: B



Features:

- Neutrophils arrive quickly
- Key in phagocytosis and releasing enzymes
- Their recruitment is mediated by chemokines

### 3. Vascular Changes

Questions cover vasodilation, increased vascular permeability, and the formation of exudate.

Sample Question:

The increased vascular permeability during acute inflammation is predominantly caused by:

- A) Vasoconstriction of arterioles
- B) Endothelial cell contraction and gap formation
- C) Smooth muscle hypertrophy
- D) Fibrosis of blood vessel walls

Correct Answer: B

Features:

- Leads to exudation of plasma proteins and leukocytes
- Mediated by histamine and bradykinin

### 4. Inflammatory Exudates and Outcomes

MCQs assess knowledge about types of exudates (serous, fibrinous, purulent) and their significance.

Sample Question:

Purulent exudate is characterized by the presence of:

- A) Clear, watery fluid with few cells

- B) Rich in fibrin and few leukocytes
- C) Pus containing abundant neutrophils and necrotic debris
- D) Serous fluid with high protein content

Correct Answer: C

## 5. Clinical Features and Manifestations

Questions evaluate understanding of redness, swelling, heat, pain, and loss of function.

Sample Question:

The cardinal signs of acute inflammation include all of the following EXCEPT:

- A) Calor (heat)
- B) Tumor (swelling)
- C) Dolor (pain)
- D) Fibrosis (scarring)

Correct Answer: D

## 6. Resolution and Repair

MCQs may explore how acute inflammation resolves or progresses to chronic inflammation or tissue repair.

Sample Question:

Which process is primarily involved in the resolution of acute inflammation?

- A) Fibrosis and scar formation
- B) Phagocytosis of debris and return to normal tissue architecture
- C) Persistent neutrophil infiltration

D) Granuloma formation

Correct Answer: B

## Challenges in Designing and Using MCQs on Acute Inflammation

While MCQs are valuable, their effectiveness depends on careful construction and implementation. There are several challenges and pitfalls to be aware of.

### Common Challenges

- Ambiguity in Question Wording: Poorly worded questions can confuse students and lead to misinterpretation.
- Cueing the Correct Answer: Sometimes, the phrasing of distractors inadvertently hints at the correct choice.
- Overemphasis on Memorization: Relying solely on factual recall may not reflect true understanding.
- Limited Scope: Poorly designed questions may not cover the full complexity of acute inflammation.

### Strategies to Overcome Challenges

- Use clear, concise language.
- Ensure distractors are plausible and relevant.
- Incorporate scenario-based questions to assess application.
- Regularly review and update question banks for relevance and accuracy.

## Best Practices for Learners and Educators

To maximize the benefits of MCQs on acute inflammation, both students and teachers should adopt specific strategies.

### For Students

- Practice actively with question banks to reinforce concepts.
- Analyze explanations for both correct and incorrect options.
- Focus on understanding underlying mechanisms rather than rote memorization.
- Use MCQs as a diagnostic tool to identify weak areas.

## For Educators

- Develop questions aligned with curriculum objectives.
- Include a variety of question formats, including scenario-based and image-based MCQs.
- Provide detailed explanations for answers to enhance learning.
- Regularly review and revise questions based on student performance and feedback.

## Conclusion

Acute inflammation multiple choice questions are a cornerstone of medical education, offering an efficient and effective way to assess and reinforce knowledge about one of the body's fundamental defense mechanisms. When well-designed, MCQs can evaluate a broad spectrum of understanding, from basic definitions to complex pathophysiological processes. They also encourage active learning, critical thinking, and clinical application, which are essential skills for future healthcare providers. Despite challenges related to question construction and potential pitfalls, adherence to best practices can significantly enhance their educational value. As the field of medical education continues to evolve, integrating high-quality MCQs into teaching and assessment strategies remains indispensable for cultivating a comprehensive understanding of acute inflammation and its significance in health and disease.

**Question** Which of the following is a characteristic feature of acute inflammation?  
**Answer** Presence of neutrophilic infiltration in the affected tissue. Which mediators are primarily involved in the initiation of acute inflammation? Histamine, prostaglandins, and cytokines such as IL-1 and TNF-alpha. What is a common histological feature of acute inflammation? Vasodilation and increased vascular permeability leading to exudation of plasma. Which cell type is predominantly involved in the early phase of acute inflammation? Neutrophils. Which of the following is NOT a typical cause of acute inflammation? Chronic autoimmune diseases. What is the primary purpose of the cardinal signs of acute inflammation: rubor, tumor, calor, dolor? To indicate increased blood flow, vascular permeability, and cellular activity aimed at tissue defense and repair.

**Related keywords:** acute inflammation, inflammation MCQs, inflammatory response questions, immune response quiz, inflammation pathology, acute phase reaction, inflammatory mediators, immune system questions, inflammatory cells, clinical inflammation quiz

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