



**SUPPLY  
LINE**

Artifact Backgrounder

## Mark I Helmet



### DEFINITION

The **Mark I helmet** was the standard steel helmet used by the British Empire forces. It protected soldiers' heads from shrapnel bullets, shell fragments and other flying debris on the battlefield. All British Empire troops, including the Canadians, used the **Mark I helmet** as of mid-1916. Soldiers normally wore their helmets near the front line trenches, where there was a constant threat of artillery and mortar fire.

### DID YOU KNOW?

While soldiers were required to turn in most of their kit and equipment upon discharge from military service, some British and Canadian soldiers were permitted to keep their helmets. In those veterans' households, these objects were likely displayed as souvenirs of war service.

## HISTORICAL CONTEXT

For much of recorded history, protective helmets and armour of varying designs have been part of the soldier's equipment. Armour gradually fell out of use after the introduction of firearms, and by the 19th century, helmets and armour had all but disappeared from military arsenals. With the exception of some cavalry units that wore ornamental breastplates and metal helmets, the armies that went to war in 1914 did not use helmets or armour.

The first battles on the Western Front were highly mobile operations, fought over open ground, much as in the 19th century. This fighting caused hundreds of thousands of casualties, and by the end of 1914 both the Germans and Allies were exhausted. They needed to recruit more soldiers and replenish equipment and supplies. In the meantime, each of the armies dug in deeply, protecting their positions with barbed

wire, machine guns and artillery. This phase of the conflict – known as trench warfare – persisted until early 1918. Compared to the opening clashes of 1914, trench warfare was relatively static. The fortifications were so strong that battlefield gains were often measured in hundreds of metres rather than kilometres.

As of 1915 soldiers on the battlefield were spending most of their time inside trenches and underground shelters called dugouts. The trenches offered good protection against rifle and machine-gun fire. They were less effective against the frequent artillery and mortar fire. Steel helmets provided protection from these projectiles, as well as from blunt-force head injuries sustained during hand-to-hand combat. By 1916, soldiers in most armies wore head protection.

## EVOLUTION/DEVELOPMENT

In the early months of the war, the French Army was the first to experiment with steel head protection. A simple bowl-shaped helmet called *la cervelière* (the “brain pan”) was worn underneath a regular cloth cap. Its close-fitting design made it terribly uncomfortable to wear, so an improved design, called the Adrian helmet was developed. By the end of 1915, France was mass-producing the first generally-issued steel helmet of the 20th century.

As early as November 1915, British military authorities recognized that every soldier on the battlefield should be equipped with a helmet at all times. It took several months before the **Mark I helmets** could be manufactured in quantities sufficient to meet demand. In February 1916, for example, there were only enough helmets for the Canadian forces to equip about one in five soldiers. As a result, helmets had to be shared.

When soldiers from the forward trenches were relieved they turned in their helmets for redistribution to the incoming men. By the end of 1916, the supply increased to the point that every soldier was issued a helmet, which he retained at all times. All of the **Mark I helmets** supplied to Canadian troops came from British manufacturers.

The **Mark I helmet** weighed 950 grams. With its wide brim, the helmet offered protection from above, but it left the sides and back of the head exposed. The earliest **Mark I helmets** had a smooth paint finish, which reflected the sunlight, offering poor camouflage. Later helmets were finished with a rougher surface to minimize reflection of light. It was also common for burlap or cloth covers to be fitted over top of the helmets, to hide the shine completely and break up the silhouette. This practice was officially

sanctioned by military authorities, although it is unclear if the covers were factory-sewn or improvised closer to the front, possibly from sandbags.

With some changes to the interior fitting and external shape, the basic **Mark I helmet** design remained in service with Canadian forces and other armies well into the 1960s, making it one of the iconic steel helmets of the 20th century.

## ADDITIONAL INFORMATION

### PROTECTION:

The **Mark I helmet** reduced the rate of serious head injuries. For example, a wartime survey revealed that among 960 wounded soldiers equipped with helmets admitted to a casualty clearing station during a 24-hour period, there

were a total of seven head injuries. Before helmets had been introduced, a sample of this size would have included approximately 30 serious head injuries.

## VOCABULARY LIST

### **Adrian helmet:**

A steel helmet issued to all soldiers in the French Army beginning in 1915, and also the first protective helmet to be mass-produced during the First World War. The pattern remained in French Army service, with minor modifications, until the 1950s.

### **Artillery:**

Weapons that use mechanical or explosive (chemical) energy to project munitions over distances ranging from hundreds of meters to dozens of kilometers. Generally speaking, any device that fires a projectile with a calibre (diameter) of 2 cm or greater is considered an artillery weapon.

### **British Empire troops:**

In the context of the First World War period, this term refers to all military forces associated with the British Empire, including troops from colonies, self-governing nations (such as Canada or Australia), and various other territories under British influence or protection. Soldiers of many nationalities and ethnicities served with the British Empire forces, including English, Welsh, Scottish, Irish, Canadian, Australian, New Zealand, South African, Indian, Egyptian and Chinese personnel, as well as Aboriginal peoples from Canada, Australia, and New Zealand.

**Cavalry:**

Soldiers who fight on horseback, or who move about the battlefield on horseback. During the First World War, cavalry forces were employed in front of armies on the march, in order to gather information about the enemy's movements. Cavalry forces were also used, in conjunction with other troops, to attack enemy positions in battle. When not involved directly in battle, cavalry troops often performed military policing duties such as traffic control, or the supervision of enemy prisoners of war.

**Field fortifications:**

Any type of defensive structures designed to prevent the enemy from passing through a certain area or seizing control of important ground. Examples from the First World War include trenches, concrete bunkers and even ordinary houses or farm buildings converted into bunkers.

**Forward trenches:**

The trenches that were situated closest to the enemy on the battlefield. These would be the starting points for attacks against enemy positions, and the first lines of defence in the event of an enemy attack.

**La cervelière:**

A primitive steel skull cap that French soldiers wore underneath their cloth caps during the early months of the war, to reduce the chances of serious head injury due to artillery fire. It was, however, uncomfortable and ineffective, and was soon replaced by the more practical Adrian helmet.

**Mortar:**

A portable, lightweight, short-range artillery weapon. During the First World War, mortars were often installed in the forward trenches, and used to harass the enemy's positions within ranges of a few hundred metres.

**Shell fragments:**

When a high explosive artillery shell bursts, its steel case fractures into a series of jagged, irregular pieces, which are blasted in every direction, with the potential to cause serious injury to any soldiers within range.

**Shrapnel bullets:**

Spherical projectiles made of lead, approximately one centimetre in diameter. Shrapnel bullets were packed into artillery shells of the shrapnel type during the 19th and 20th centuries. Shrapnel shells were especially effective against soldiers and horses in the open.