

## **Unusual Musket Balls**

In the search for more effective ammunition, schools of gunnery experimented with variations on the standard musket ball. Some unorthodox rounds had barbs or sharp edges to make them more deadly; others consisted of groups of linked projectiles that were fired together. However, these elaborate bullets were difficult to manufacture, and they were only marginally more effective than simple spheres of lead. The basic spherical musket ball remained the standard for ammunition until matchlock muskets were displaced by modern guns in the nineteenth century.

This panel shows various kinds of unusual ammunition as depicted in a firearm manual from the Tanegashima school of gunnery. The display case contains musket balls of different shapes and sizes along with other items, including a ceramic hand grenade (the spiked ball at the rear).