SURGEONS’ CHESTS FROM THE MARY ROSE

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Appearance: simple, rectangular parallelepiped, and made of approximately two centimetres of wooden boards, probably oak. Size: varies but mostly large, the average size of early modern chests might be 120 cm × 60 cm × 70 cm. Habitat: Mary Rose, the sixteenth century warship. Origin: used since ancient times, but for different purposes.

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ON THE 31 MAY 2013, THE MARY ROSE MUSEUM, LOCATED JUST 400 METRES from the main entrance to Portsmouth Historic Dockyard, opened for the first time to the public. The Mary Rose is a carrack-type warship of the English Tudor navy of King Henry VIII, built in Portsmouth between 1509 and 1511. Its great size, and the huge number of weapons it carried, served as an expression of power and established it as an awe-inspiring status symbol in the sixteenth century. After being in service for thirty-four years, the ship sank in the Solent between the Isle of Wight and the mainland of England on the 19 July 1545. In 1971, the shipwreck was discovered. A team of over 500 volunteer divers explored the area, using dredgers, water jets, and airlifts. Ever since its rediscovery in 1971, the Mary Rose has been in the process of restoration, and it is currently in the final stages of conservation.

The Mary Rose Museum houses about 19,000 artefacts. In most cases, they were cleaned, documented, and photographed for further research. Remarkably, many of these artefacts were retrieved from the wooden chests which had held them in the sea for several centuries. The durability of the Early Modern chests undoubtedly protected them. Historically, the definition of boxes includes their lack of legs, and in this they are distinguished from chests, which may or may not have legs (Miyauchi 1991: 18–19). The majority of the chests found on the Mary Rose are without legs but have handles for carrying on both sides and the lid. These handles could also help to keep the lids firmly closed, and to keep the damp out.

Each chest was used as a container, but for different purposes in different parts of the ship. The artefacts in some of the chests are carpentry tools, such as mallet, drill handle, plane, and ruler, but there are also other items, such as a backgammon set, a book, three plates, a sundial, and a tankard. There are chests that contain animal bones: one chest includes the skeletons of a rat, a frog, and a dog; and in another chest, the bones of pigs and fish, stored in baskets, are found. As for musical instruments, two fiddles and a bow, three three-hole pipes and a tabor drum with a drumstick were discovered. Further, a set of navigation instruments, such as compasses, divider callipers, a stick used for charting, protractors, sounding leads, tide calculators, and a log reel – an instrument for calculating speed – were found in some of the chests. Chests were commonly used everywhere on the ship.
Among the large number of cultural artefacts recovered from the Mary Rose are the surgical instruments from surgeons’ chests (FIGURE 36.2). These give special insight into the medical history of sixteenth-century England. As revealed by the excavation, the surgeons – who were in charge of the health care and welfare of the crews, in addition to the medical practice on board – seem to have stayed in the cabin located on the main deck underneath the sterncastle of the Mary Rose. An intact wooden chest contained over sixty important objects relating to the surgeons’ medical practice. They kept a copper syringe for wound irrigation and treatment of gonorrhoea, and even skilfully crafted feeding bottles for feeding incapacitated patients. Other objects related to barbers’ duties were also found around the cabin, such as ear scoops, shaving bowls, and combs.

One of the surgeons’ chests includes a complete set of surgical tools such as a surgeon’s cap, a wooden dish, two wooden bowls, eight bandage rolls of a sticky resinous material, the wooden ointment canisters, ceramic medicine jars, a scalpel, a whetstone, a leather flask, wooden tankards, a bronze pan, a heavy bronze mortar, a spatula to mix and spread ointment, and a brush. Other chests, in addition, contain traditional surgical instruments such as syringes, lancets, and the trepanning instrument to drill into the skull. The tools found in surgeons’ chests or cabins in the Mary Rose are the same tools as the ones
general surgeons used in the Early Modern period. Such general tools used by surgeons would have included tongs, pincers, saws, scissors, scalpels, bowls for blood-letting, a wooden mallet, flasks of yellowed glass, a brass syringe, and so on (Siraisi 1990: 154).

The surgeons’ chests in the Mary Rose show how and what surgeons treated on the ship. The chests and their contents are the concrete evidence of medical history. One of the most basic objects is a lancet. The presence of a lancet illustrates that surgeons performed the typical and traditional treatment of blood-letting, which was regarded as the most common primary medical treatment for many injuries and diseases. It was believed for many centuries that four humours – blood, phlegm, yellow bile, and black bile – constitute the human body, and that their imbalance makes people sick. It was therefore important for medical men to restore the balance of the four humours in order to bring about recovery from the disease. This was done by means of surgical venesection, which was the commonest task performed by the barber-surgeon in the Early Modern period (Siraisi 1990: 140). The biggest problem of venesection was that it could lead to the death of many patients, especially after the loss of blood through injury (Sloan 1996: 114).

As is also shown from the surgeons’ chests, blood-letting was often accompanied by the administration of vomits (emetics), purges (purgatives) or clysters (enemas), in order to restore the balance of the humours, by reducing one humour identified as being in excess. Surgeons applied plants to perform emetics and purgatives, because plants were acknowledged as fairly safe, although tartar emetic (antimony potassium tartrate), a highly toxic inorganic compound, was prescribed by some physicians (Sloan 1996: 61). Enemas were administered just as they are nowadays, but in the Early Modern period, simple piston syringe clysters were used for bowel cleansing.

The syringes found in some of the chests from the Mary Rose are surprisingly similar to the syringes doctors still use today. The needles of these syringes are long and thin, but cylindrical. The biggest difference between the syringes from the Mary Rose and those used today lies in their use. In the Early Modern period, the syringe was used not to inject medicines under the skin, nor to inoculate against diseases, but rather to drain infected wounds of pus, or to apply alcohol to fresh wounds, cleaning them in order to avoid infection.
Another important surgical instrument, and a staple of surgeons’ chests, is the saw. Surgeons would sometimes have a soldier’s leg amputated at the infected joint. When a soldier with a wounded leg was carried in, the assistant would punch the soldier in order to render him unconscious, or more frequently, patients sniffed at opium-soaked sponges or drank alcohol before the operation (Barber 2013: 35). However, the pain of sawing was so horrible that, in the course of the operation, some died of physiological shock, loss of blood, or infection from the filthy environment – dirty saws, dirty floor, dirty clothes, and so on.

The Mary Rose surgeons’ chests also include the mallet, which may have been used for performing small amputations on the arms and legs, and used with a chisel and block to remove damaged fingers and toes. The mallet is also thought to have been used to treat bone ulcers and for tooth removal. Scalpels were common surgical tools. Then, as now, they were frequently used for dissecting dead bodies rather than operating on live patients. Although opportunities to dissect a human body were limited, it was the privilege of military surgeons to see inside the body, by means of autopsies performed on corpses carried into the surgery.

The chests on the Mary Rose were not only used for storing surgical tools, but also for medicines. Generally, in the case of rich families, medicines such as herbs, chemicals, and ointments were kept in small bottles, and there were special boxes for those bottles. Chests for household medicine were therefore another type of medicine chest. The sixteenth-century Genoese medicine chest of Governor Vincenzo Giustiniani, for instance, is a beautiful chest that can hold 126 bottles and pots for drugs (Science & Society Picture Library 2015). The chest is made of leather-coated wood. A beautiful landscape is painted on the inside of the lid. The chest is a four-tiered set, and each tier can be slid sideways. Although there are many holes for glass bottles in the box, they are beautifully lined up, and in fact the box resembles a jewel case. This type of medicine chest was generally owned by rich people, who not only used them as medicine chests but also displayed them as furniture for their beautiful design.

Although beautiful bottles like those possessed by rich ladies were not found on the Mary Rose, the surgeon’s cabin held three pale-green glass bottles. Bottles were commonly used everywhere in daily life, so it seems that they are not special to this ship from the perspective of medicine, although the bottles
found on the Mary Rose would have been relatively expensive. The contents of these bottles have, of course, been lost, but it is likely that they would have contained either mercury or scented oils. The latter could have been used as aftershave for officers. Mercury was also regarded as one of the best medicines for the treatment of syphilis, one of the commonest diseases amongst ships’ crews. Mercury is believed to have been injected by a syringe just like the one found on the Mary Rose.

Shipboard surgeons were generally employed by navies and the merchant marine. The number of surgeons’ chests recovered from the Mary Rose indicates that its final voyage was going to be a long one. During the Middle Ages, travel had generally been for professional or military reasons, or for the purpose of pilgrimage. By the Elizabethan period, however, personal secular travel – tourism – had become a well-established activity (Singman 1995: 91). Therefore, the sixteenth century was the time when people started moving more than before. Chests were used not only on voyages, but also for personal use as travellers moved from one place to another. These were called ‘travelling chests’. Generally, dishes, jewellery, or clothes were placed in such a chest. Sometimes chests were covered with leather in order to avoid their getting wet in the rain.

I have so far investigated the inventory of surgeons’ chests on the Mary Rose; however, also deserving of attention are the chests themselves, which were designed to protect what was inside. The highly efficient Early Modern chests were useful for containing small sorted batches of items. In churches, chests were often used to keep important documents and items. This is because churches were rich enough to buy expensive chests. In order to make a big chest for churches, a big log was used, though logs had a tendency to crack as they dried. Therefore, hoop iron was often wound around the chest to prevent it cracking (Gloag 1977: 305).

Chests could also be seen in the private areas of manor houses and castles. In the chest were important household materials such as cloth, clothes, money, documents related to land, and other pecuniary contracts. For these reasons, the chests were often put in the upstairs rooms or basements which are connected with spiral staircases, rather than in the hall where many people passed in and out. In other words, chests were kept in the safest places (Mercer 1969: 38). The relationship between chests and money was frequently pointed out in the
medieval and Renaissance periods. Merchants stored money in the boxes or chests. In Shakespeare’s *The Merchant of Venice*, Jessica, a Jew’s daughter, brings out the ‘casket’ when she elopes with a Christian man. It is revealed later by Shylock, her father, that the casket contained a diamond worth ‘two thousand ducats’ and ‘other precious, precious jewels’ (2001: 3.1.76–80). In fact, many illustrations from the period show that money and other treasures were kept in special boxes and chests.

Chests seem to have been used to store important possessions. They could frequently be seen in sixteenth-century houses and in many shops. Carpenters and farmers used chests for storing their implements, as they were nicely shaped and could be placed side by side along the walls of a room.

The closet, which is one of the secret areas in the house, stored many items directly related to everyday life. In sixteenth- and seventeenth-century kitchens, flour, dried fruits, bread, and cheese were often kept in an oaken chest called an ark. Especially in the manor houses, rich ladies had a tendency to prepare and keep seasonings and medicines in chests for the members of their households, but when those items filled too many chests, the chests were placed in the closet. The closet was the private and concealed area, and it was the best storage space in the house.

In Shakespeare’s *Pericles*, the closet is mentioned as the place to keep medicine chests. Cerimon, a lord in Ephesus, helps a lady called Thaisa who was thought to have died aboard ship after a difficult birth. Thaisa was in critical condition when she arrived at Ephesus, but she was saved by Cerimon’s careful treatment. Cerimon mentions the closet when Thaisa is carried into his house:

Make a fire within;
Fetch hither all my boxes in my closet.
Death may usurp on nature many hours
And yet the fire of life kindle again
The o’erpressed spirits. I heard of an Egyptian
That had nine hours lain, who was
By good appliance recovered.

(2004: 3.2.79–85)
Cerimon is not introduced as a doctor, but as a lord in Ephesus. However, his closet, like that of rich ladies in the Early Modern period, contained medicine boxes which were linked to Thaisa’s recovery from a coma.

Medical people also kept books and receipt books in their chests, alongside their surgical tools and medicines. As there were no bookshelves, people kept books in chests, because books were costly and many books were passed down to their descendants as inherited property. As the printing industry was still under development, universities, churches, and abbeys kept their important books in chests locked with sturdy keys to maintain their condition. Some of the chests found in the library at the University of Oxford, for example, are too big to pass through the door, so that it is considered that they were made inside the room. This proves that books were treated with care, and their condition carefully preserved.

Although books relating to surgery, medicine, or herbs could be obtained from book shops, a more reliable means of transmission in the Early Modern period was family medicine books handed down from generation to generation. Fantastic records of medicine in response to minor daily disorders were written down by aristocratic mothers, in a book called a receipt book. Those books were passed down from mother to daughter as receptacles of knowledge about family medicine. In teaching, both family receipt books and published guides were used as instruction manuals (Whaley 2011: 154). Receipt books conveyed how to cook and otherwise prepare herbs and ointment for treatments.

Another Shakespeare character, Helena in *All’s Well that Ends Well*, owns receipt books. Her books were passed down from her father, a famous doctor, Gerard de Narbon:

The rather will I spare my praises towards him;  
Knowing him is enough. On’s bed of death  
Many receipts he gave me; chiefly one,  
Which, as the dearest issue of his practice,  
And of his old experience th’ only darling,  
He bade me store up as a triple eye,  
Safer than mine own two; more dear I have so,  
And hearing your high majesty is touch’d
Helena succeeds admirably in curing the French King’s fistula, which was regarded as an incurable disease by all the court physicians. This provides evidence that receipts contributed immensely to medicine.

Chests from the Mary Rose show that they were constructed in such a manner as to preserve the objects inside, and they convey the fantastic history of medicine in the Early Modern period through their contents. As the Early Modern chests were outstanding products of the time, they were used as containers for professional or important materials, as well as for items of daily use. Chests therefore played an important role in conveying the accumulated knowledge of time to future generations.

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FIG. 37.1 Open electrotherapy box