# DISSECTION AND PREPARATION OF ORGANS FOR PLASTINATION

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## INTRODUCTION

Plastination, invented in 1978 by Dr. Gunter von Hagens (University of Heidelberg, Germany), is a method to obtain plastin /resin polimer replicates of organisms or parts of these. The principle of plastination is the removal of water and lipid from the specimen (whole organism, organs, tissues) and their replacement by a curable polymer. It depends on the kind of specimen we choose we have four variations of those techniques: silicone polymer is the most used, but there are also epoxy resin, polyester polymer exclusive for brain slices, and polymerization emulsion. [1]

## THE OBJECTIVES

- Focus on plastination technique to obtain a reproducible specimen for learning animal anatomy .
- Study horse (*Equus cavallus*) heart's coronary circulation through it's dissection.

## MATERIALS AND METHODS

The plastination method used in this study was according to the protocol described in the X Postgraduate Course, Murcia University. [2] We distinguish five main steps in this process:

| | |
|---|---|
| FIXATION | 4 % Formaldehyde solution 8 days  |
| DISSECTION | Making visible the cardiac structures  |
| DESHIDRATATION | In 97 and 100 % acetone solution  |
| IMPREGNATION | Vacuum chamber with S-10 and S-3 polymer blend  |
| CURING | Curing chamber, S-6 hardener gas and silica gel. |

## CONCLUSIONS

- I have learnt every step of this technique, although the specimen hasn't finished the process yet.
- The dissection process has allowed me to deepen the horse (*Equus cavallus)* heart's anatomy, specially the coronary circulation.
- In my opinion plastination is a technique that will be a part of animal and human anatomy learning.

## BIBLIOGRAPHY

[1] Ravi SB, Bhat VM. 2011. **Plastination: A novel, innovative teaching adjunct in oral pathology,** *J Oral Maxillofac Pathol.,* May, 15:133-7.

[2] Murcia University, Veterinary Anatomy Department. December 2010. **X Postgraduate Course, Silicone Plastination Technique, Technique S-10.** Murcia, Spain.

[3] Barone R. 1996. **Anatomie comparée des mammifères domestiques. Angiologie. Tome V. Vigot Editions, pp:904**

## RESULTS

Plastination is a lengthy process, so it was impossible that our piece ended the process in the moment we finished this work. Notwithstanding, we deepen the anatomy of the horse heart, obtaining a piece were we can see the different anatomic structures. [3]

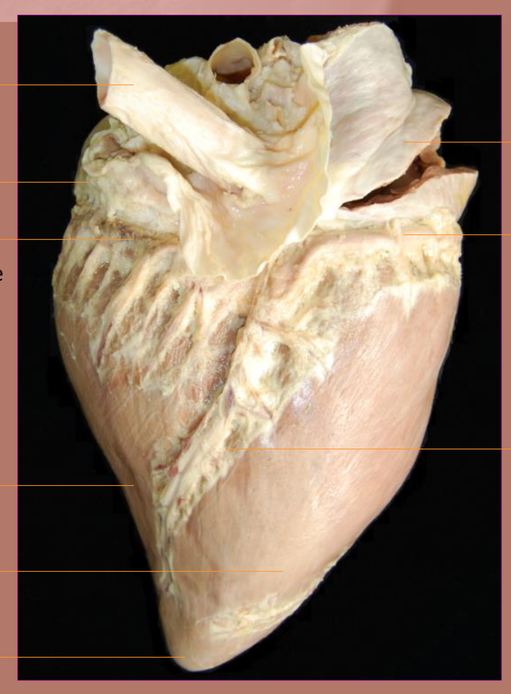


Figure 1. **Atrial face** (right). Sectioned right auricle to permit an inside view.


Figure 2. **Base of the heart** (dorsal view).