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**PAPER CRP & CP**

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**SEMESTER 4TH**

**Q: no1:**A barium swallow is a test that may be used to determine the cause of painful swallowing, difficulty with swallowing.

**Protocols for barium swallow:**

* Patient may be asked to eat a low-fiber [diet](https://www.emedicinehealth.com/diet_and_nutrition_quiz_iq/quiz.htm) for 2 to 3 days before the barium swallow test. Patient will be asked not to eat or smoke after midnight before the exam.
* Patientwill wear a hospital gown and told to remove all jewelry including body jewelry such as [nipple](https://www.emedicinehealth.com/breast/article_em.htm) and belly-button rings, [dentures](https://www.emedicinehealth.com/image-gallery/dentures_picture/images.htm), hair clips, or other objects that might show up on an X-ray.
* Patient will drink about 1 1/2 cups of a barium preparation-a chalky drink with the consistency (but not the flavor) of a milk shake. Children will drink less.
* The barium can be seen on an X-ray as it passes through the digestive tract.
* The barium swallow procedure may take about 30 minutes to finish. In certain cases, it may take up to 60 minutes to fill the stomach.
* Patient will be strapped securely on your back on a table that tilts forward. X-rays to examine your heart, [lungs](https://www.emedicinehealth.com/image-gallery/lungs_picture/images.htm), and abdomen will be taken before you drink the barium. Patient then will be asked to swallow the barium mixture.
* X-rays will be taken again as the barium moves through the digestive system. Patient will be asked to take more swallows so more pictures can be taken on different positions.

**Q: no 2: Positions used in barium Meal:**There is a great variation in views recommended, and the following is only the scheme used in our departments. In some departments fewer films are taken to reduce the cost and radiation dose

* Supine –body and antrum.
* Right lateral position- fundus**.**
* Spot films for duodenalloop.
* Spot film of the abdomen with the patient in prone position.
* Additional view of the fundus Spotfilms of the esophagus.
* Modification technique for young children ¬Indication • Vomiting ¬Technique • Singlecontrast • 30 % barium sulphate • No paralytic agent.

**Q: No 3: General classification contrast used in conventional radiography**.

Contrast Materials:Contrast materials, also called contrast agents or contrast media, are used to improve pictures of the inside of the body produced by x-rays, computed tomography (CT), magnetic resonance (MR) imaging, and ultrasound. Often, contrast materials allow the radiologist to distinguish normal from abnormal conditions.

**High osmolality contrast media**

* High osmolality contrast media (HOCM) are approximately five to eight times the osmolality of serum. In general, HOCM are ionic compounds that include a benzene ring with three iodine atoms and a side chain containing a carboxylic acid (-COOH) group. As the first generation of iodinated contrast agents, HOCM were associated with high rates of adverse events and fell out of favor in the 1990s for intravascular and intrathecal purposes. HOCM remain used for gastrointestinal and cyst urethral administration, including the following agents:
* [diatrizoate](https://radiopaedia.org/articles/missing?article%5Btitle%5D=diatrizoate&lang=us) sodium/melamine (Gastrografin, MD-Gastro view, Cystografin)
* iothalamate sodium/meglumine (Conray, Cysto-Conray)

###### Low osmolality contrast media

Low osmolality contrast media (LOCM) are less than three times the osmolality of human serum and preferred for intravascular and intrathecal administration. Modern LOCM are generally, but not always, nonionic monomers composed of tri-iodinated benzene rings with various side chains that contain polar alcohol (-OH) groups that make them water-soluble 3. LOCM in current use include the following:

* iopamidol (Isovue)
* iohexol (Omnipaque)
* iopromide (Ultravist)
* ioversol (Optiray)
* ioxilan (Oxilan)

The LOCM category also includes iso-osmolal contrast media (IOCM), which are approximately the same osmolality as serum. The only IOCM in current use is a non-ionic dimer, which is composed of two covalently bound tri-iodinated benzene rings:

* iodixanol (Visipaque)

The dimer structure of iodixanol fits a higher concentration of iodine atoms per osmole, permitting diagnostic levels of contrast opacification at less toxic osmolality.Non-ionic LOCM are available in varying concentrations ranging from 240 to 400 mg iodine/mL. Higher concentration formulations produce a greater peak of enhancement (measured in [Hounsfield units](https://radiopaedia.org/articles/hounsfield-unit?lang=us)) but are also more viscous.