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# BIPP (Bismuth Iodine Paraffine Paste) Pack revisited

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## Abstract:

This review article takes a new look at the use of BIPP pack following nasal and ear surgeries. It lists the advantages and pitfalls of using this packing material. Pubmed search revealed very little material on this topic hence I compiled existing data to bring out an article.

## Introduction:

Bismuth iodine paraffin paste is routinely used to pack nasal cavities. This was first used by James Morrison Rutherford Professor of surgery Durham<sup>1</sup> to dress first world war soldier's wounds.

## BIPP Pack:

This is a sterile gauze (ribbon) impregnated with a paste containing<sup>2</sup>:

1. one part bismuth subnitrate
2. Two parts iodoform
3. One part sterile liquid paraffin by weight

## Role of Bismuth subnitrate:

It is a topical astringent and antiseptic. It is soluble in weak acid but insoluble in water and alcohol. It contributes to the antibacterial properties of BIPP pack by releasing dilute nitric acid on hydrolysis.

Bismuth is not completely safe from complications<sup>3</sup>. It is considered to be less toxic than antimony and polonium. It has a half life of 5 days in the body but is known to remain in kidney for a long time. Bismuth can cause neurotoxicity because it is known to interfere with oxidative metabolism of brain. This complication is very rare when BIPP pack is used to pack the nasal cavity.

## Symptoms of Bismuth toxicity:

1. Head ache
2. Nausea
3. Stomatitis
4. Bismuth line in the gingiva (Bismuth line)

Absorption of bismuth is more when packing is made on tissues that has already been injured. Hence considerable amount of caution should be exercised before repeated nasal packing due to epistaxis.

## Iodoform:

Its chemical name is triiodomethane.

This is another component of BIPP pack. It has a distinctive color and smell. It is insoluble in water and is highly soluble in chloroform / ether. Iodoform decomposes to release iodine which is

an antiseptic. Iodine toxicity is common when BIPP packing is used to pack large wounds.

Paraffin:

Serves to lubricate the area packed. It minimizes trauma which could occur during packing.

Uses of BIPP Packs:

1. Used to pack ears following surgery
2. Used to pack nasal cavities after nasal surgeries

Bismuth is radio opaque. BIPP packs also contain a radio opaque marker strip which makes its identification easier when it is lost inside the cavities. Plain radiograph of the area is sufficient to identify the pack.

BIPP pack can be left in situ safely without fear of infection either in the ear or nasal cavity for a period up to 10 days<sup>4</sup>.

Contraindications for using BIPP Pack<sup>5</sup>:

1. During pregnancy
2. During states of Hypo / Hyperthyroidism
3. Patients with known allergy to iodine

Conclusion:

This article revisits the whole concept of BIPP packing. Eventhough it was commonly used to treat epistaxis during early 19<sup>th</sup> century, it fell into disrepute due to the reported incidence of complications and toxic reactions. This article attempts to throw light on the various aspects of BIPP packs, its use and contraindications.

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