

# **NOSE BLEED**

## **(EPISTAXIS)**

by  
**Charles F. Butler M.D. Ph.D.**

The most common problem seen by the Physician at ringside is nasal bleeding. As in most problems that merit ringside consultation by the physician, it is the safety of the boxer--- rather than appearances that is paramount.

Typically the “bloody nose” is evaluated by the ringside physician when the referee brings the unhappy boxer to the corner for the doctor to examine.

The common uncomplicated “bloody nose“ is not a health threat to the elite boxer. It is not a reason to stop a contest unless it occurs in a very young boxer at such an age where the appearance of blood itself is frightening.

The **reasons to stop a bout** in which a bloody nose occurs are:

1. **Blood going down the back of the throat** which will impair the boxer’s breathing. A slight blood tinge seen at the back of the mouth is OK.
2. **Arterial Bleeding**--- bright red pulsatile blood from the nose signals an arterial bleed. This is usually from a more posterior location. This emergent condition requires stopping the bout and nasal packing. It may require hospitalization. Posterior arterial bleeds are very rare in boxing.

3. A bloody nose that presents an accompanying **cut on the bridge of the nose** may actually represent bleeding from a **compound fracture** of the nose. The fracture may be “masked” or “hidden” by the cut on the bridge of the nose which draws the inexperienced physician’s attention.

#### 4. **Acute Nasal Fracture**

#### 5. **Excessive uncontrolled venous bleeding**

#### **Acute nasal fracture**



These reasons to **STOP** the competition should be identifiable by the ringside physician who examines the boxer in less than 20 seconds.

Physicians may develop their own routine for this evaluation but this is



## How I Do It:

1. Approach the boxer with gauze in weak left hand and a “palmed” gauze and small penlight in the fingers of the strong hand.
2. The weak hand gently squeezes just below the bridge nose while the strong hand wipes away the blood from the boxer’s face.
3. Palming the gauze in my right hand I signal the boxer to open his mouth (by opening my mouth). the mouthpiece is not moved. Shine the penlight at the back of the mouth to be sure there is no significant bleeding into the throat.
4. The weak hand holding the boxers nose let’s the physician know if there is the instability (and pain) of an acute fracture.
5. If there is no fracture, release the nose, wipe the blood, observe for pulsatile bight arterial bleeding. Unless there is a large amount of venous bleeding, the signal to box is given.

## Technique for a Post Bout Examination of the Nose:

- Open speculum in anterior-posterior direction to avoid compression of the septum
  - o This will allow visualization of 90% of bleeding sites
- Reflected light from a head mirror is ideal but OTOSCOPE will work at venue
- The first turbinate you see is the “ inferior turbinate”



International Boxing Association

- Airflow is primarily along the nasal floor
- Septal deformities are seen as “C-Shaped” deformations, spurs

### Treatment:



When a bout is over, the ringside physician may be asked for help to stop a persistently bleeding nose, the first step is usually pressure, having the boxer squeeze the nose for 15 minutes without release of pressure. This treatment maybe made more effective by a constrictant nasal spray (Afrin, Neosynepherine).



If the bleeding fails to stop, cauterization of the septal bleeding site with silver nitrate (for 30 Seconds), or by electro or heat cautery may be attempted. Do not cauterize both side of the septum! Substances such as surgical gelfoam, thrombin soaked gelfoam, epistat, microfibrillar collagen, etc., may also be employed.



*Technique of anterior nasal pressure by joined tongue blades (Baylor Technique)*

As long as the bleeding is anterior and venous, **anterior packing** may be quite effective. Care must be taken to avoid too much pressure or necrosis of the nasal tissue or the septum may occur.

The incidence of posterior arterial bleed is rare in boxing. This is a truly emergent condition. Posterior Bleeding can allow large amounts of blood to drain down the throat compromising respiration. If such bleeding is treated by **Posterior Packing, the Athlete should be admitted to the hospital for close observation**. Continuous cardiopulmonary monitoring is important. Compromise of the airway with Posterior packing may lead to death. Oxygen supplementation should be considered and an IV kept running in such cases.

#### **Techniques of anesthesia:**

At some point, it may become desirable to anesthetize the nasal cavity before proceeding further with aggressive control of the persistent nosebleed. This will be determined by the amount of bleeding, patient compliance, the manipulation anticipated. The nasal cavity may be anesthetized for balloon introduction,



International Boxing Association

### Simple Method:

Have the Boxer inhale Afrin or Neosynephrine nasal spray for vasoconstriction. Add 2% Xylocaine to nasal spray. Have the boxer spray and inhale again for topical anesthesia.

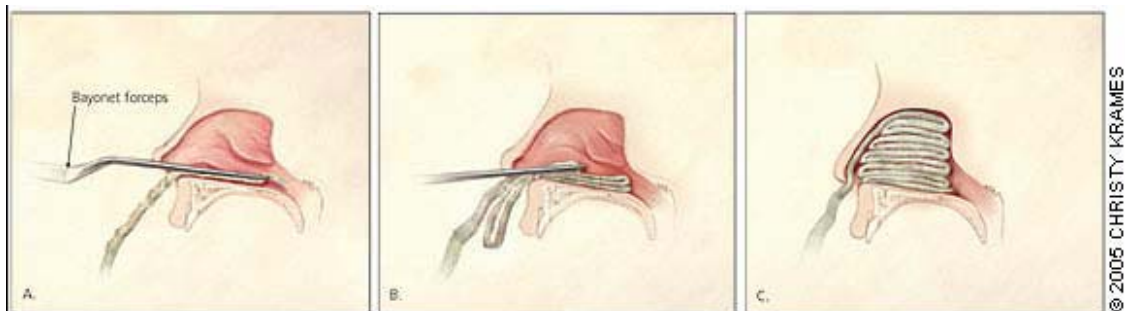
### More Formal Method of Anesthetizing Nasal Mucosa (if available):

- Use 4% Cocaine or a mixture of 2% tetracaine and 1:10,000 epinephrine in equal parts to soak two elongated cotton pledgets.
- The boxer blows the clots from his nose
- Quickly inspect for a bleeding site using a nasal speculum and Frazier suction tip.
- Clean out clots
- Insert the medicated cotton pledgets as far back as possible into both nostrils.
- Have the patient relax with the pledgets in place for approximately 5-10 minutes.

### Classical Gauze Packing for anterior chamber bleed:

(Baylor Technique)

- Anesthetize nasal mucosa with cotton or via inhalation.
- Impregnate ribbon gauze with petrolatum jelly
- Use bayonet forceps and a nasal speculum to place the gauze in a layered, accordion fashion.
- The gauze should be placed as far posteriorly as is possible



*Nasal Packing with bayonet forceps*



International Boxing Association

### If anterior packing fails:

- Bleeding source **visually confirmed** as anterior
  - Consider **bilateral packing** to increase the pressure on the nasal septum.
- Bleeding source **not visually identified**
  - **Suspect posterior** bleeding source.

### Technique of Tampon Insertion for Anterior Bleed:

- Moisten end of tampon with lubricant to facilitate passage
- Pass tampon along the floor of the nasal cavity
- The tampon expands as it absorbs moisture
  - Facilitate hemostasis and expansion by spraying tampon with vasoconstrictor.

### Technique of Balloon Insertion for Posterior Bleed:

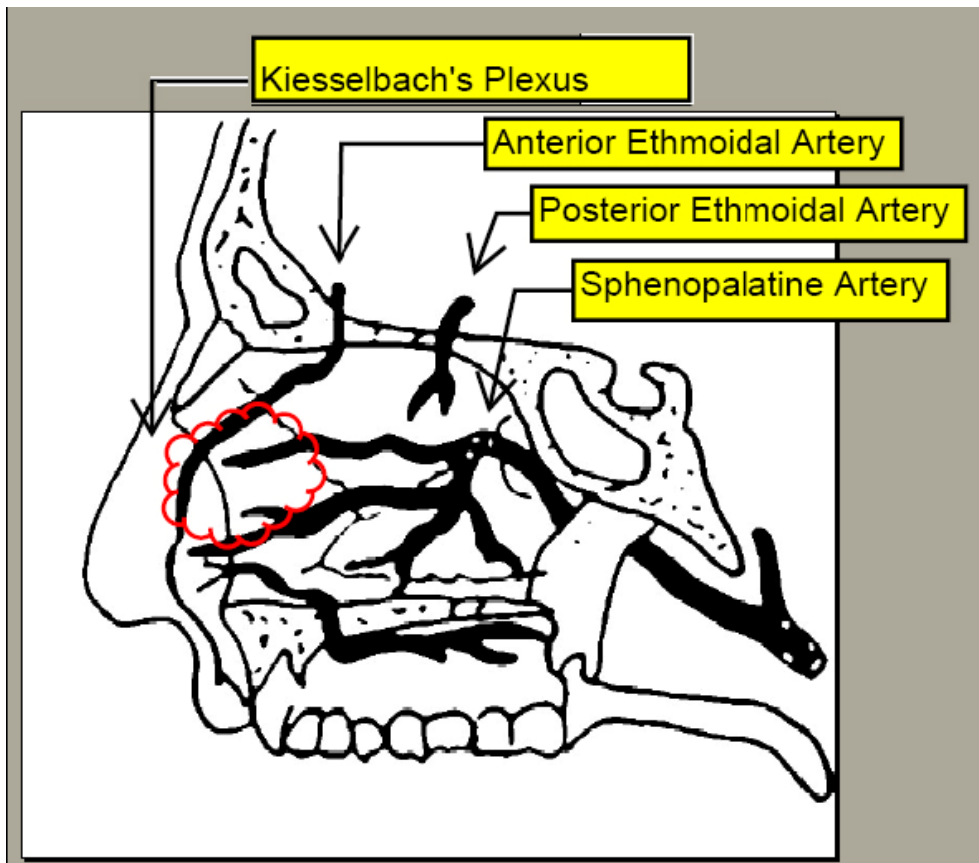
- Coat the balloon with an antibiotic lubricant such as mupirocin or Neosporin or polysporin ointment
- Insert balloon catheter or Foley into nasal cavity
- Visualize the catheter in the back of the throat
- Inflate nasal balloon with 7 to 10 cc saline (Foley, not more than ten cc's).
  
- Draw the balloon forward seating the balloon in the posterior Nasal cavity
  
- If double chamber nasal Balloon
  - Inflate the anterior balloon [15 to 30 cc's sterile water]
  - Apply padding (Xeroform gauze, iodoform strips) to prevent alar necrosis
- If Foley Catheter (Illustration of technique at end of Article)
  - Pack the anterior Chamber with balloon, Rhino Rocket, or layered gauze
  - Use padded clamp to fix Foley in place and prevent alar necrosis
- Leave in place 3 to 4 days



International Boxing Association

**Cover the patients with systemic antibiotics---** Antibiotics that cover *Staphylococcus* species (e.g., cephalexin, amoxicillin, ampicillin) can prevent sinusitis and toxic shock syndrome

**Admit all patients with posterior packing** to the hospital for observation. Reflex bradycardia can occur because of stimulation of the deep posterior oropharynx by the packing or direct airway obstruction may occur from balloon migration.

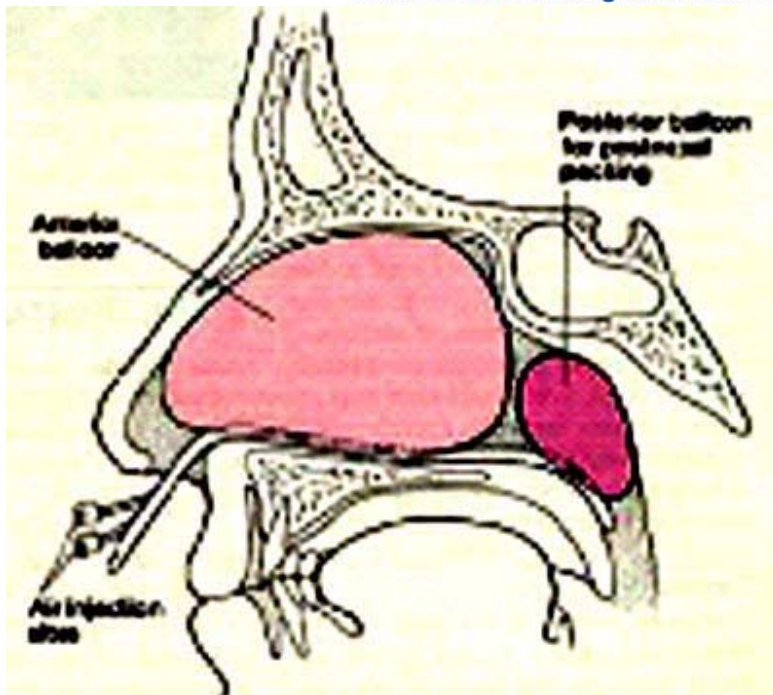


(Baylor University)

The usual sites of bleeding illustrated. The **red circle above** shows the location of Kiesselbach's venous plexus. The usual arteries involved in the more dangerous posterior bleed are marked.



International Boxing Association



Schematic diagram showing placement of “Anterior” and “Posterior” nasal balloons

# Nasal Balloon



Picture of nasal balloon which may be used for tamponade of bleeding. Inflated Anterior and Posterior components may be seen.

## Some other Various available Nasal Balloons

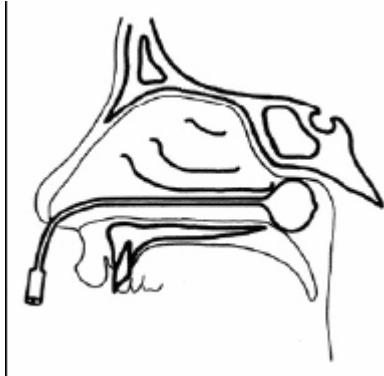


Stops Bleeding in Kiesselbachs area.

Stops Bleeding and prevents deformity



Anterior and Posterior Component Balloon –Integral Airway!



#### **Other Means:**

- **Endoscopy and Cauterization** of the bleeding site may be performed by a trained specialist

- **Surgery/Embolization:**

- o When the bleeding is extensive enough to require transfusion,
- o When the anatomy of the nose does not allow packing,
- o When the person refuses or cannot tolerate packing,
- o When medical management fails after 72 hours.

#### **TIPS and TRICKS:**

- **All athletes with nasal bleeds should be checked post bout for Nasal Septal Hematoma.**

- o If found a nasal Septal hematoma must be drained immediately or the nasal septum may necrose and perforate.

- o Once evacuated using an 11 blade, the hematoma cavity should be drained (a rubber band will work) to avoid recurrence and packed. Spraying the area with Afrin or 1% xylocaine plus epinephrine may facilitate hemostasis.

- **Athletes with chronic recurrent nasal bleeding may require surgical cauterization of the bleeding area when a break in competition schedule allows. The application of estrogen cream to the nasal septum may cause the nasal mucosa to hypertrophy and avoid a surgical procedure in boxers with chronic nasal bleeds.**



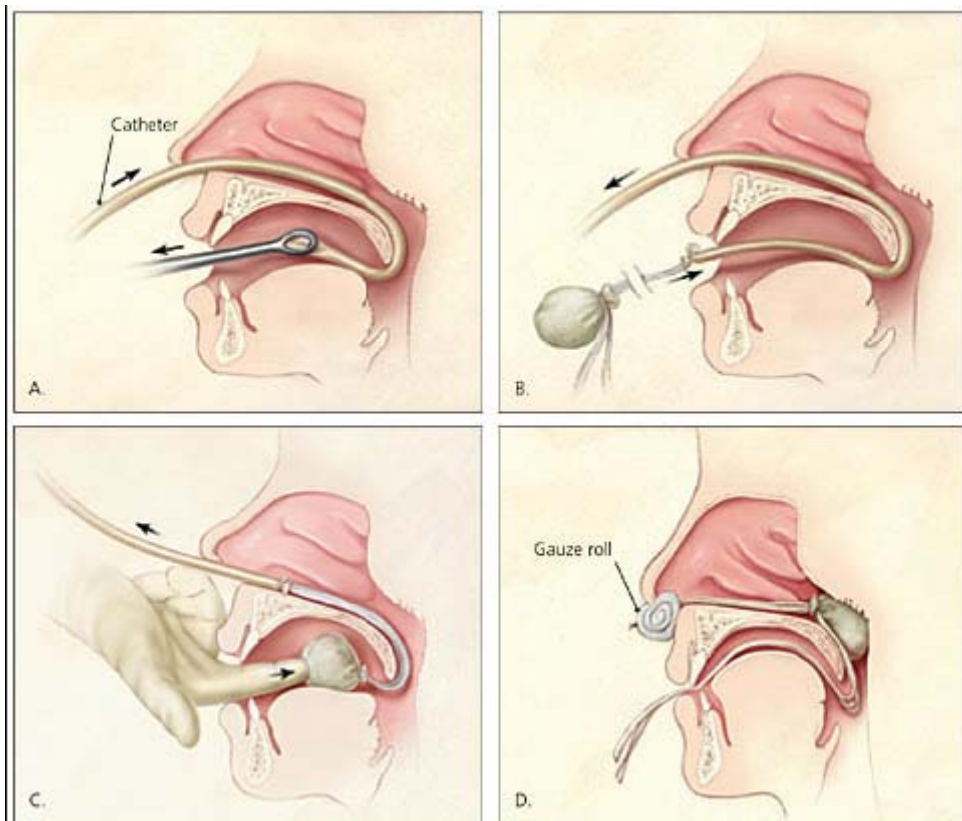
International Boxing Association

- **Never pack the nose of any unconscious person when skull fracture or cribriform plate injury is suspected.**

- **When performing speculum exam of the nose:**

- o Polyps above the middle turbinate in Children--- think Cystic Fibrosis
- o Redness of mucosa indicates inflammation, blue is irrelevant

- **In emergency situations when no standard nasal balloon is available**, a simple straight or Foley catheter may be used to tamponade threatening bleeding. This technique is illustrated in the 4 picture sequence below. The anterior chamber may then be packed as described above. When using this technique use extreme care with regard to the patient's airway! Observation in ICU is appropriate.



© 2005 CHRISTY KRAMES

Credits: To write this article I have relied on the work, writing and illustrations of many excellent ENT physicians and anatomists. Some of these include Dr. Frank Filliberto, Dr. Bobby Alford, Dr. Scott Bailey and many others from whom I learned but have failed to name. To all whose expertise allowed this article to be written---Thank you! cb