Allergic rhinitis/hay-fever is the most common allergic condition in the Westernised world. It is also the least understood and poorly managed.

Learn now what happens in nasal/sinus allergy and how it can be turned around.



Classical medical diagram of inside of nose showing turbinates. Turbinates are soft 'shelves' that run the length of the nose. Normal turbinates warm, moisten and humidify air before it enters the lungs. Damaged or swollen turbinates cause nasal obstruction, block the natural sinus-to-nose drainage canals and trigger sinus issues.



Inferior turbinate: note the smooth lining and clearly defined shape

This gentle curve separates the lower surface of the turbinate and the nasal lining

What the immediate inside of a real nose looks like

Above image shows normal inferior turbinate in a 10 year old boy

Above image shows the allergically challenged inferior turbinate in a 5 year old girl.

Inspect both images closely: note the change in the size and colour of the inferior turbinate in the 5 year old girl. Note also the amount of mucus clinging from one surface to the other side.

Grass pollen allergy (hay fever). Symptoms: sneezing, runny nose, blocked nose.





#### NORMAL NASAL NUCOS/

Above image shows normal inferior turbinate in a 10 year old boy

Dust mite + tree/grass pollen allergy



Above image shows the effect of long term untreated or incorrectly treated nasal allergy of the inferior turbinate if an 11 year old boy. Note the 'paleness' of the turbinate on the right compared to the left. Note also how the turbinate is swollen and obstructing the nasal cavity.



Note the 'bridge link' between nose lining and turbinate

Note the smooth, shiny surface

The dark zone is the space for air to move up and down through the nose

### Normal middle turbinate

Note there is a clear edge to this turbinate making it look like a long, narrow island





#### Normal middle turbinate

Severely allergically swollen middle turbinate in a 13 year old girl: 1) so swollen this side stuck to nose lining; 3) this side also stuck to opposite nose lining; 2) bulk of the turbinate grossly enlarged, probably with allergy-fluid (edema)

Dust mite + pollen allergy: Symptoms: blocked nose, snoring, loss of taste/ smell, cough/wheeze

# Above image shows a normal inferior turbinate

NORMAL NASAL

The image to the right shows the inferior turbinate of a 7 year old girl captured during an aggressive 'attack' of pollen hay fever



Compare the images closely: note how swollen & irritable the surface linings look in this image. Note the change in the colour of the nasal lining, from healthy pink to allergically damaged 'paler' pink. Note how the inferior turbinate is so swollen it's 'touching off' the opposite side of the nose lining. Note the excess mucus: strands clinging from one side to the other.

#### HAY FEVER\_

Normal middle *turbinate* 

'Isthmus' link to nose lining

Note smooth surface and clearly defined edges making it look like an island connected by an isthmus to the nose lining

Compare the images: the middle turbinate above is so swollen it fills all the space at the mid-point of the nose. All of the nasal tissue is paler, less pink.

Symptoms: blocked nose, loss of sense of smell, diminished sense of taste, snoring, night cough and cough/wheeze on exercise.







hospital admissions and greater total days spent in hospital

Now see how Rhinolight U/V phototherapy reverses the damage to the nasal lining and turbinates in allergic rhinitis/hay fever





Inferior turbinate swollen and obstructing nasal cavity

Right inferior turbinate before Rhinolight in a 12 year old girl Allergies: dust mites, cat hair, tree & grass pollen giving perennial or all-year-round rhinitis Pre-treatment symptom score = 23







Inferior turbinate in a 12 year old girl with dust mite allergy. Note how the tissue is stuck to the opposite side

#### Pre-Rhinolight symptom score =23

Note how the inferior turbinate has reduced in size and no longer sticking to opposite side. Better airflow through the nose.

#### Post-Rhinolight symptom score = 2



Middle turbinate in same 12 year old girl swollen and obstructing normal airflow through the nose

Pre-Rhinolight symptom score = 23

Middle turbinate now reduced in bulk with better airflow through the nose

Post-Rhinolight score = 2



 Note the dramatic reduction in 2 swelling of middle turbinate (1) and the evolving polyp (2).
Considerable improvement in airflow through nose

#### Post-Rhinolight score = 5

SINUSIT/IS\_

Severe and long standing allergic damage to middle turbinate in male mid-fifties1) Middle turbinate swollen2) Polyp type swelling along side turbinate

Pre-Rhinolight score: 17



Middle turbinate in 21 year old girl with long standing nasal/sinus allergy (dust mites, animal hair and grass pollen). Turbinate swelling with fluid exudate. Poor response to anti-allergy medication. Pre-Rhinolight (including reduced sense of smell) score = 23



Dramatic reduction in fluid swelling inside middle turbinate with better airflow through the nose and pressure off the olfactory nerve. Post-Rhinolight score = 11 with 50% improvement in sense of smell

## Conclusion



Rhinolight is a significant new treatment in the management of allergic rhinitis.

It works for children and adults allowing reduction or cessation of anti-allergy medication.