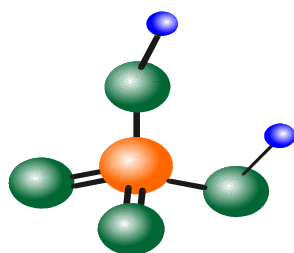


# ***YMT'S FREE RADICAL HYPOTHESIS***



Mechanism Of Action  
for  
SONOTRON

# YMT'S FREE RADICAL HYPOTHESIS

## MECHANISM OF ACTION FOR SONOTRON

Sonotron is a totally non-invasive device that uses the energy from a corona discharge beam to relieve pain and obtain other beneficial effects. To achieve this, the skin surface of a patient overlying a problem region such as an arthritic joint is scanned by the beam emanating from a discharge electrode to which is applied periodic bursts of radio-frequency energy whose repetition rate is at a sonic frequency and whose peak amplitude is such as to cause a corona discharge. This energy is derived from a radio-frequency carrier generator whose operating frequency is at 430 KHz. This carrier is over modulated in amplitude at a sonic rate, whose frequency is in the 1 - 5 KHz range, so that the carrier is interrupted periodically to produce the bursts.



Sonotron, possibly, works by many mechanisms. But, one practical explanation could be that of the inactivation of free radicals in the problem area of a patient's body by the energy from the Sonotron, thereby reducing pain and reversing the process of destruction in body tissues. This mechanism could most likely sound logical for explaining why in a total of about 14 minutes, a diabetic sore, with horizontal size of 40 mm, was healed completely with only 2 minutes of net exposure time per session from the Sonotron and needing only 7 treatment sessions, in total.

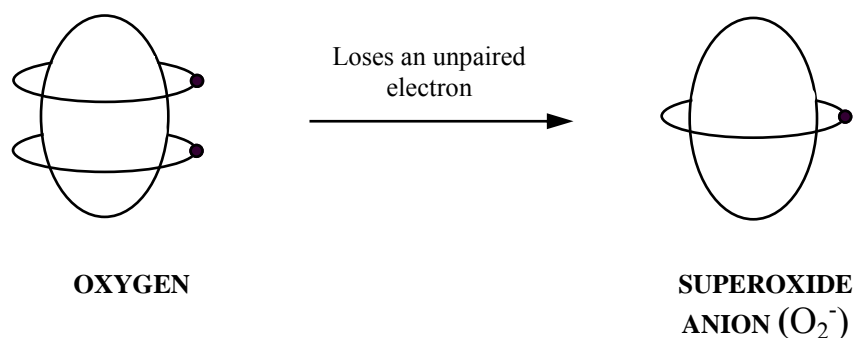
The author attempts to explain his hypothesis as follows:

### Fact No. 1

Studies have shown that the body of a patient suffering from the above problems tend to have a higher concentration of Superoxide Anion (a free radical) than present normally in a healthy person. This Superoxide Anion is normally removed by the enzyme, Superoxide Dismutase (SOD), present in the body. When the content is higher than the amount of SOD available, the Superoxide Anion becomes troublesome.

### Fact No. 2

A free radical is a molecule which has an unpaired electron and can exist independently by itself. Superoxide Anion is formed when Oxygen loses one of its two unpaired electrons (or accepts an electron).



It, thus, becomes a molecule that is ready to accept another electron to stabilise itself.

Superoxide Anion is also represented by the symbol O<sub>2</sub><sup>-</sup>. Because it is unstable, it readily dismutates into Hydrogen Peroxide and Hydroxyl Radical, another free radical.



### Fact No. 3

Hydrogen Peroxide, being a powerful oxidising agent, is a strong electron acceptor.



It is also acts as a reducing agent by being an electron donor.



### Fact No. 4

Hydrogen Peroxide is normally removed by Catalase and Peroxidase in the body. However, when the content of the Hydrogen Peroxide is higher than the capacity of the enzymes to remove, it then becomes troublesome.

Hydrogen Peroxide is penetrative through membranes.

Therefore, it can exert pain by penetrating into nerves and causing pain by stimulating it with the electrons it gives out.

### **Fact No 5**

Hydroxyl Radical is very destructive. It is one of the most reactive species known. It breaks down cell walls as well as breaks single strand DNA and the cross links between DNAs, thereby killing cells. This free radical has been found in the amniotic fluid after that part of the body has been subjected to ultrasound treatment. It is also discovered in bodies after they have been subjected to X-ray treatments.

Because of the destructive nature of the hydroxyl radical which is present in the cells of a diabetic wound, it takes a long time for the wound to be healed by normal processes.

However, because the Hydroxyl Radical is a molecule with an unpaired electron, it is always prepared to accept another electron to pair with it. This provides a means for Sonotron to deal with it.

### **Fact No 6**

Because free radicals like the Superoxide Anion and Hydroxyl Radical have only one unpaired electron, they act like negative receiving probes as they are ready to accept another electron to stabilize itself by pairing with it.

### **Fact No 7**

Sonotron emits electro-magnetic energy and electrons. Output signals were found to resemble the frequency spectra of electro-surgical units but with approximately 1/60th the current and power equivalent required to operate a typical electro-surgical unit. The amount of power dissipated within the tissue was even smaller, similar in magnitude to the power of a pocket calculator. The Instrumentation Systems Center of the University of Wisconsin, U.S.A. had determined the values as 0.023 Watt for power, 0.022 Ampere R.M.S. for current and 1.06 Volt R.M.S. for voltage.

Sonotron's electron discharging ability is unique because it discharges electrons in free air, without the presence of a negative receiving probe. Therefore, in a way, it is also unstable - always looking for a negative receiving probe to stabilize itself.

At the same time, Sonotron's energy is of a certain level that is just right to influence certain reactions in molecules of cells in the body. That level of energy is produced when Sonotron's electro-magnetic energy combines with the energy of its sound.

Besides, the said energy is pulsed thereby adding certain beneficial characteristics to its effects.

### **Fact No. 8**

Superoxide Anion and Hydroxyl Radical being paramagnetic molecules, are influenced by external magnetic fields. These molecules become aligned or anti-aligned to the magnetic field, absorbing energy which, if it is at the correct level, moves the orbiting electron from a lower level to a higher one, thus changing its characteristics and unstabilising it.

### **HYPOTHESIS**

Superoxide Anion, Hydroxyl Radical and Hydrogen Peroxide attract Sonotron's electrons that had entered the skin of a patient in difficulty. The attraction is almost likened to that which happens when lightning from the sky strikes a receiving probe in the ground, on earth.

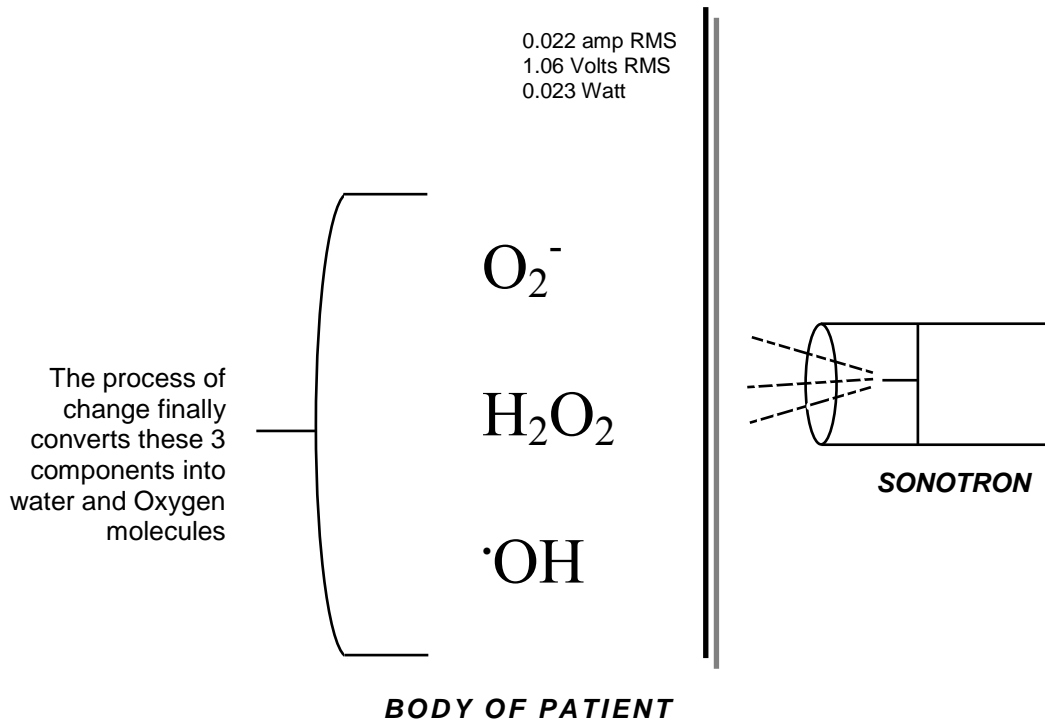
The right strength of the electro-magnetic field produced by the radio frequency, coupled by the unique pulsation of this energy provides an environment conducive for the electrons to insert themselves into the molecules (and pair with the unpaired electrons - in the case of free radicals).

As a result,

Superoxide Anion accepts an electron changing it into a non radical, thereby inactivating it. Hydroxyl Radical also accepts an electron making it non active; finally changing it into water. Hydrogen Peroxide, after accepting the necessary number of electrons, degrades into water and oxygen.

The above scenario of events leads one to explain why:

- a) Pain can be relieved almost instantly by the Sonotron energy.
- b) The range and speed of motion of an arthritic joint is increased almost immediately after treatment
- c) Diabetic wounds were healed after only a few sessions of Sonotron exposure.



### Fact No. 10

Increase in content of Superoxide Anion reduces the activity of Vasoregulin, a protein secreted by the Adrenal Glands of the body. Vasoregulin is an agent that produces anti-inflammatory effects in the body.

By the reduction of Superoxide Anion from the action of the Sonotron, the activity of Vasoregulin is increased, thereby increasing the anti-inflammatory effect in the body. This may help to explain why delayed pain relieving action and delayed reduction in swelling is also observed in patients minutes or hours after Sonotron therapy.

### Conclusion

It is possible that Sonotron acts by direct action on free radicals present in the cells of patients in difficulty, giving almost immediate pain relieving effects and rapid reduction of damage to tissues of diabetic wounds. Besides, it is also possible that Sonotron exerts a delayed anti-inflammatory action in the body of patients by indirectly increasing the activity of Vasoregulin secreted by Adrenal glands.

YMT's Free Radical Hypothesis can also help one understand how Sonotron reduces or eliminates further degeneration in the joints of arthritic patients.

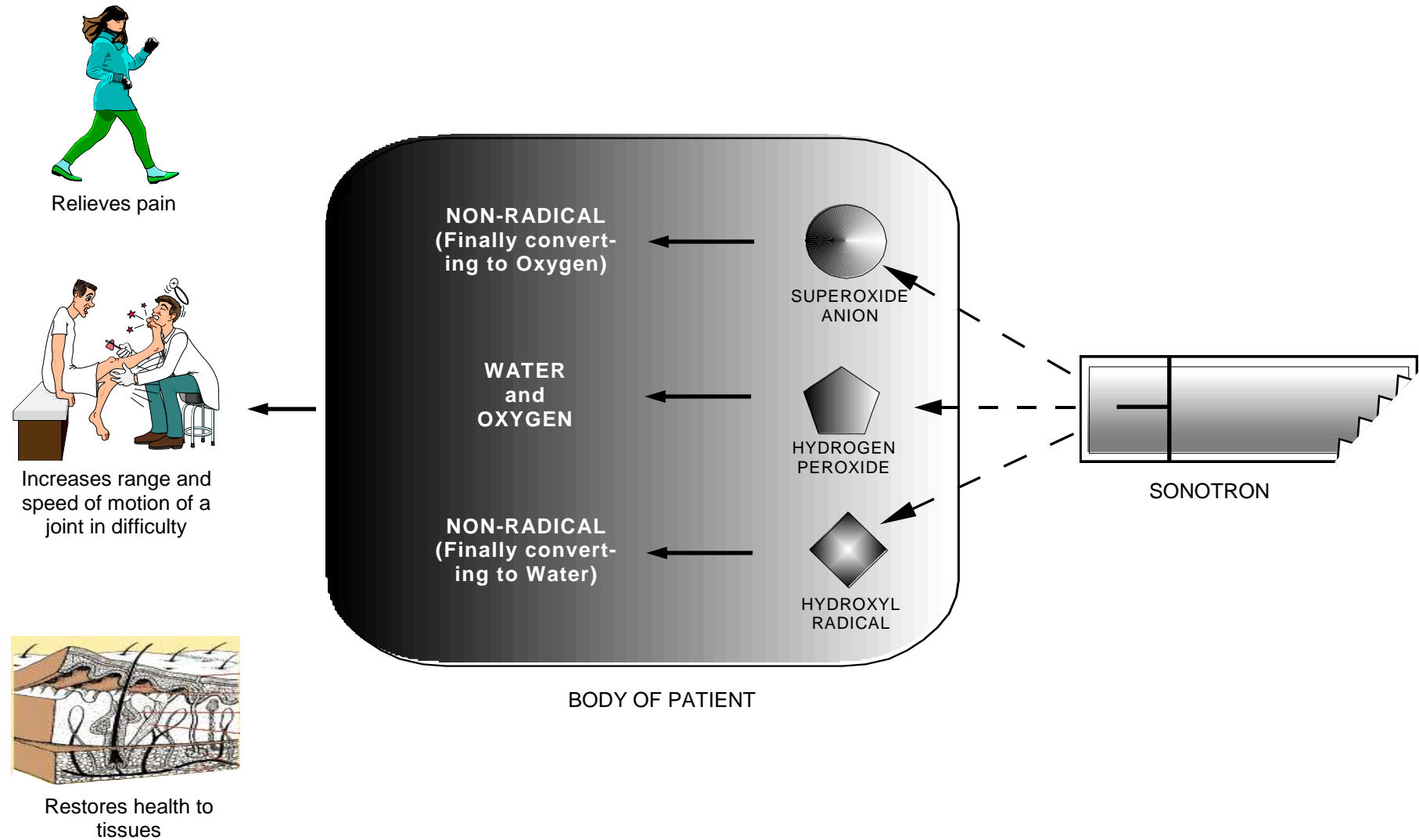
Note:

The author is still continuing his studies and research in this particular field and hopes to add or improve his hypothesis, over time. Any comment or contribution by any reader is most welcome.

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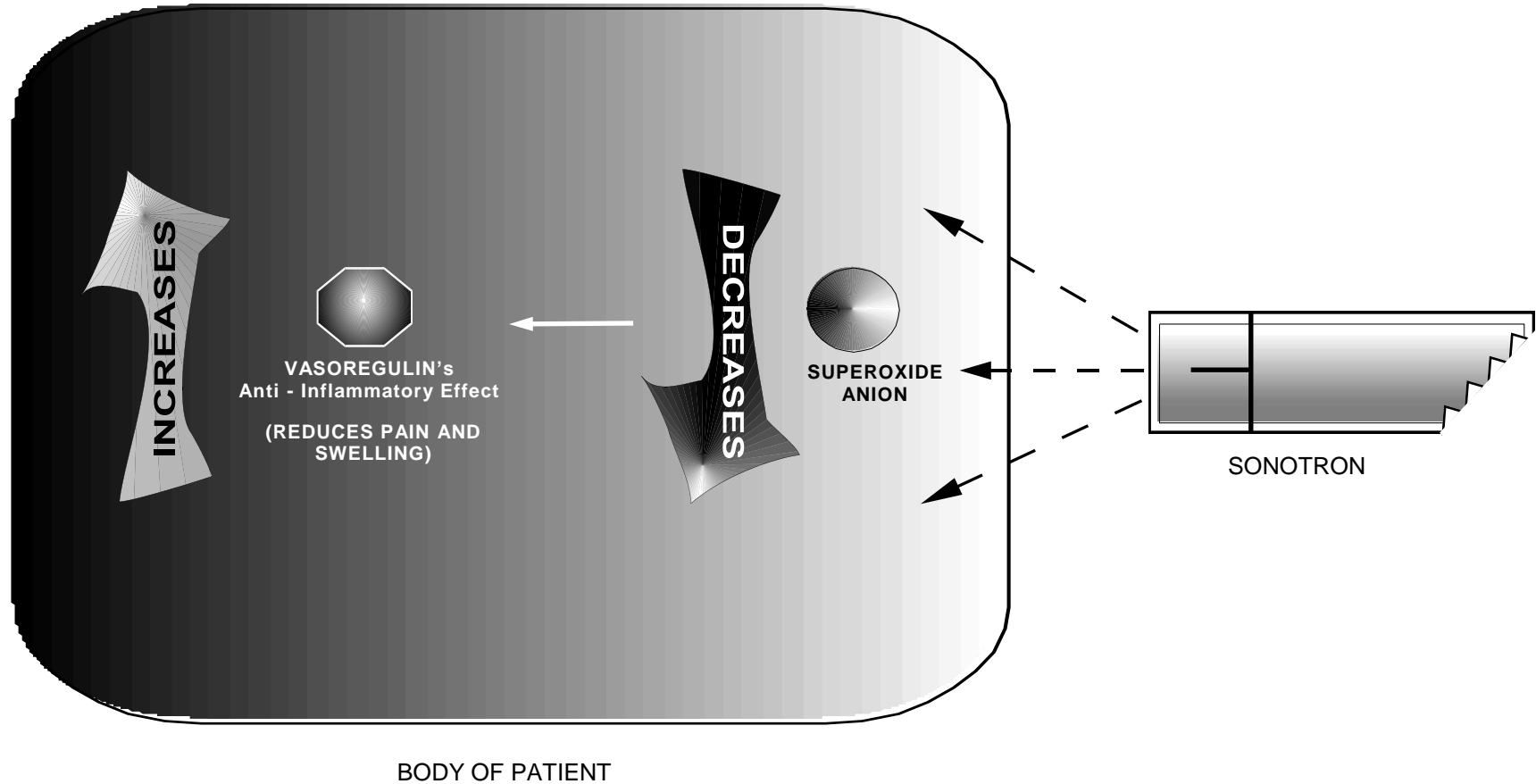
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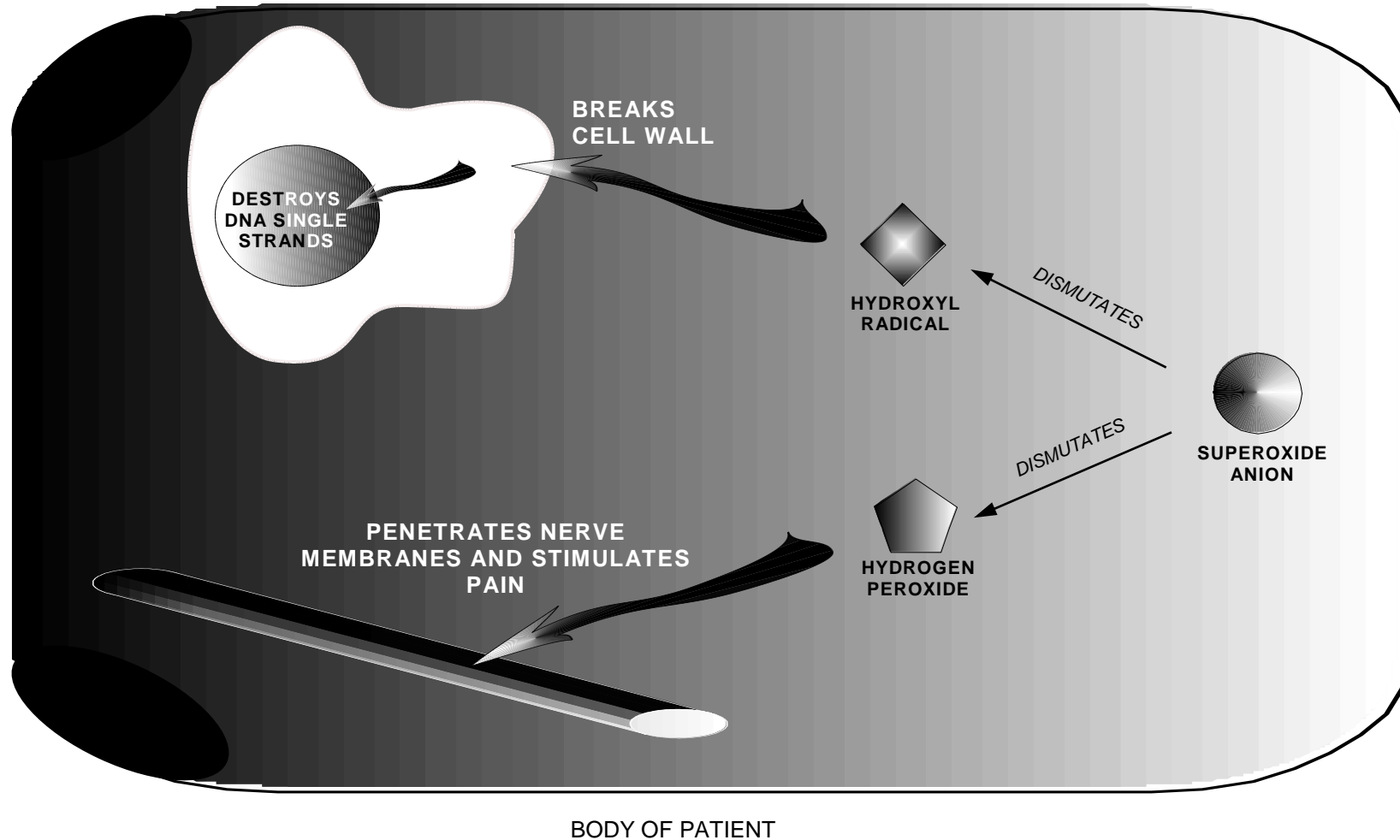


# YMT'S FREE RADICAL HYPOTHESIS



Mechanism Of Action For SONOTRON  
(INDIRECT EFFECT)

# SUPEROXIDE ANION



HYPOTHESIS ON DESTRUCTION OF CELLS AND STIMULATION OF PAIN