Physiological approaches to stress management use techniques designed to change the activity of the body's stress response system. Two physiological methods for stress management include drugs and biofeedback.

There are two types of drugs that ca be used in stress management; benzodiazepines (BZs) and Beta-blockers. BZs are a group of drugs that are commonly used to treat anxiety. BZs slow down the activity of the central nervous system. This is done by enhancing the activity of the natural biochemical substance called GABA. GABA is the body's natural form off anxiety relief. This enhancement is achieved in several ways. One such way is that GABA slows down nerve cell activity. It allows chloride ions into neurons, slowing the activity if the neuron which causes relaxation. Another way is that GABA also reduces serotonin activity. Serotonin is a neurotransmitter that has an arousing effect people who are depressed have low levels of serotonin and one form of treatment is to take drugs. People with anxiety need to reduce levels of serotonin which is done by GABA, which then decreases arousal of neurons, causing reduced anxiety. BZs imitate the activity if GABA and therefore reduce arousal of the nervous system and reduce anxiety.

Beta-blockers act on the sympathetic nervous system rather than the brain. Stress leads to the arousal of the sympathetic nervous system and this creates increased blood pressure, heart rate, elevated levels of cortisol etc. These symptoms lead to cardiovascular disorders and reduce the effectiveness of the nervous system. Beta-blockers reduce the activity of the sympathetic nervous system and reduce the associated undesirable symptoms. Bet-blockers are often used by sportsmen and women.

The strengths of anxiolytic drugs is that they work. One way to assess the effectiveness is to compare outcomes when anxious patients are given drugs while others are given a placebo – a substance that has no pharmacological effects. Patients are given the medication but do not now if it is the real thing or the placebo. This enables the determination of whether the effectiveness of drugs is due to pharmacological properties or to something psychological. Kahn et al (1986) followed nearly 250 patients over 8 weeks and found that BZs were significantly superior to placebo. Another strength is that using drug treatment for stress requires little effort from the user. All that needs to be done is the remembrance of taking the drugs. This is such easier and takes less time and effort than other techniques such as biofeedback.

However, BZs were first introduced over 40 years ago and replaced barbiturates, which tended to be addictive. It is only recently that the problems of addiction and BZs have been recognised, specially the problems of low dose dependence. Patients taking even low doses of BZs show marked withdrawal symptoms though individuals with passive-dependent personalities appear to be more likely to experience withdrawal symptoms than other patients, Ashton (1997) recommended that BZs should be limited to a maximum of 4 weeks use. In addition to this there are many side effects including drowsiness, dizziness, tiredness, weakness, diarrhoea and more seriously seizures, irregular heartbeat that require immediate medical attention. Drugs may be effective at treating symptoms but these only last only as the drugs are taken. As soon as the drugs stop the effectiveness ceases. It may be that the problem has passed but in cases such as chronic stress it may not be appropriate simply to put a temporary bandage to the problem. This means that it may be preferable to seek a treatment that addresses the problem itself rather than one that deals only with the symptoms.

Biofeedback like drugs also deals with the physiological symptoms of stress such as raised blood pressure etc. Biofeedback is a method by which an individual learns to exert voluntary control over involuntary (automatic) behaviours by being made aware of what is happening in the automatic nervous system. Biofeedback involves four processes. Feedback is where the patient is attached to several machines which provide information about various ANS activities. Then relaxation where the patient is taught techniques of relaxation. These have an effect of reducing activity of the sympathetic nervous system and activating the parasympathetic nervous system. Operant conditioning then take place as relaxation leads too a target behaviour. This is rewarding which increases the likelihood of the behaviour being repeated. Such conditioning takes place without conscious thoughts. The patient then needs to transfer the skills learnt to the real world.

Gruber and Taub (1998) successfully trained four monkeys to raise and lower body temperature and reduce muscle tension using biofeedback. This demonstrates that biofeedback learning does not depend on conscious thought because non-human animals cannot be using the power of thought. Also Attanasio et al (1985) trained children and adolescents to use biofeedback with stress-related disorders, mainly muscle-contraction headache. They identified various advantages of training children: increased enthusiasm and generally more positive attitudes.

Biofeedback has been found to be successful in treating a wide assortment of behaviours and disorders. Bradley (1995) compared the effectiveness of using biofeedback versus relaxation to control muscle-tension headaches. The biofeedback group was given 7 50-minute sessions of biofeedback. After treatment the biofeedback group had significantly fewer headaches than the relaxation group. Biofeedback is not an invasive technique. The only effects of it is increased relaxation which is desirable.

However, the technique requires specialist equipment which means that it is expensive and can only be undertaken with specialist supervision. The aim of biofeedback is to reduce symptoms associated with stress, such as reducing heart rate or muscle tension. Biofeedback does not treat the source of stress such as workplace tension. However it does provide the patient with a potentially long-lasting means of dealing with stress symptoms by applying relaxation techniques.