

Altjiran Enhancement Packages

Standardized in AR 863, [Altjira Biomedical](#) was commissioned to produce low-impact physical enhancements for the [Astral Vanguard](#). With the impending threat of sterility from overly invasive or radical physical and genetic modification to the body, the primary concerns of this series of baseline enhancements were to improve the basic functionality of the being without leaving too strong of a genetic footprint. Worries that it might result in a race of superhuman beings who would usurp sections of society were secondary, but addressed. All of the enhancements were designed to be recessive and would fall away within no less than two generations, and would see immediate decay within the first generation of offspring, with most traits being entirely removed or vastly reduced in effect.

It is for this reason that bioenhancement [Purists](#) within the military are the least likely to seek relationships with their cohorts, and prefer to avoid perpetuating even the limited alterations to their bodies onto another generation. Of course, with the rise of gene therapy and advanced reproductive technologies, the issue itself is moot. A military couple wishing to produce normal or less radically altered children are never at a impasse to find options to do so.

In addition, these treatments may be reversed through long-term genetic therapy or faster through an intensive combination of gene therapy and [regeneration treatments](#) which allow the modifications to take more quickly.

Pattern 1: Standard Enhancements

The basic pattern of enhancements is the enforced standard for all members of the Astral Vanguard. All soldiers are required to receive it after basic training, but before the selection of a specialist or combat occupation, and is explained in detail during post-basic education. In most cases, these are not exactly physical enhancements, so much as treatments to remove flaws and physical weaknesses.

There are minor physical enhancements, but mostly in regards to endurance and physical stamina, as well as mental capabilities.

Somatic Enhancements

Pattern 1 somatic enhancements focus on bringing the individual within the top half percentile in terms of physical abilities. Weaknesses such as allergies, poor eyesight and recessive genetic defects are eliminated, and most individuals see slight improvements in physical strength and endurance. Due to the [Astral Vanguard](#) operating heavily in space, individuals also receive minor improvements to vacuum tolerance (surviving a little over a minute instead of seconds), as well as greatly decreasing the rate of muscular and skeletal atrophy from microgravity living.

The most notable physical effect is the strengthening of the cardiovascular system, allowing for significantly improved physical endurance. Not only does the heart pump faster and more efficiently, but blood is more oxygenated, preventing the formation of deposits of lactic acid, and blood pressure throughout the body is stabilized to reduce the chances of blacking out from G-forces.

Features:

- Improved stamina.
- Motion sickness reduction.
- Tolerance to vacuum.
- Decreased skeletal and muscular atrophy.
- Erasure of allergies, weakened eyesight and other recessive genetic defects.

Mental Enhancements

Increased neural redundancy in the brain and the delivery of engineered neuron-biased stem cells slow degradation from age in the brain, while improving recovery from trauma and exertion. Sleep deprivation and concussions do not have the same catastrophic effects on the brain. It's also notable that while the treatments do give marginal improvements to response times, they're generally not particularly noticeable.

Features:

- Improved mental acuity.
- Tolerance to sleep deprivation.
- Tolerance to concussions.
- Improved mental recovery from trauma or illness.

Pattern 2: Pilot Enhancements

Pattern 2 treatments focus on improving the minds of the pilots who operate the [Astral Vanguard](#)'s living weaponry, such as starships and VANDR, while improving their tolerance for the associated strains. While an individual with the pilot enhancements don't specifically receive major physical enhancements beyond the baseline, their minds are keen and adaptive, and their bodies capable of weathering extreme G-forces.

Somatic Enhancements

Pilots receive the basic physical package, with an added emphasis on improving tolerance to environmental stressed experienced in space and atmospheric engagements. After several months (or years) of treatment, most express modified inner ear structures and optimized nervous structures that allow them to process neural-input data more efficiently.

- Improved resistance to G-forces.
- Improved skeletal and muscle density.
- Improved nervous synchronization in entry ports.

Mental Enhancements

Due to the nature of modern VANDR-based warfare, most pilots endure a series of rigorous nervous alterations, from simple optimization of existing nervous channels to the induced expression of entirely new nervous tissue types. Post-treatment, Astral Vanguard pilots demonstrate borderline superhuman reflexes and mental acuity, being able to negotiate around basic environmental hurdles such as gravity and electromagnetic interference without computer assistance. Their densened sensory lobes process visual (and more esoteric forms of) information at a greater speed and volume than the unaugmented.

In some cases, often the product of several years of successive modification, certain individuals display genuine multitasking or parallel processing akin to a computerized system.

- Greatly improved mental acuity.
- Enhanced reflexes.
- Enhanced spatial perception and pattern recognition.
- Enhanced sensory processing. (Heavy)

Pattern 3: Infantry Enhancements

Strong gravity is the enemy of Iromakuanhe who hail from the capital of [Maekardan](#), who hail from a world with a weakened gravitational field from a slower spin rate and low-density core. Despite this, most engagements for infantry occurred on the icy wastelands of [Mazerin](#), a world with nearly twice the native gravity and a panoply of environmental hazards ranging from constant freezing temperatures, storms of oxygen-depleting halon gas and near-universally toxic flora and fauna. These conditions and those of space are the most common seen by [Astral Vanguard](#), meaning that any standardized genetic package would require major biological adaptations to these environments.

Somatic Enhancements

The somatic enhancements given to the Vanguard's infantry might seem extreme, but are structured largely for the purposes of survivability. Surface tissues are laced with radiation, heat and impact resistant fibers that disperse or deflect these sources of harm, while also improving the body's ability to resist tearing and lacerations. Skeletal and muscular tissues are greatly densened and reinforced in order to compensate for the naturally weak physical aptitudes of most [Iromakuanhe](#), allowing for three to four times the lifting power from baseline bodies. They otherwise receive augmented senses, though only to the peak of baseline ability.

- Trauma-resistant skin and musculature.
- Improved skeletal and muscle density.
- Improved tolerance to heat, cold and oxygen deprivation.
- Improved senses.

Mental Enhancements

The infantry package does not imply the same gross alterations to cognition as pilots receive, instead focusing on augmenting reflexes and physical coordination. Individuals that have received the infantry package will generally display dexterity that is borderline superhuman, but generally only slightly greater than the peak experienced by baselines.

- Enhanced reflexes.
- Improved physical coordination.
- Enhanced sensory processing. (Light)

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