

Adverse Health Effects of Magnetic Nanoparticles: Mechanisms and Checklist

A Plain-Language Guide to Key Terms

First, the terms used in the tables are explained in plain language.

- **Magnetic nanoparticles (MNPs):** Extremely small particles containing iron, roughly one-thousandth the width of a human hair. Once inside the body, they can be moved or heated from outside using a magnet (a magnetic field).
- **MENPs (magneto-electric nanoparticles):** A type of magnetic nanoparticle that can convert a magnetic field into electricity. When a magnetic field is applied, they generate a weak electric charge right next to the particle and stimulate nerves.
- **Magnetic field:** The space in which a magnet’s force acts. Commands can be sent to the particles invisibly from outside the body.
- **Local electric field:** A very small electric field that appears only right next to a particle. It acts as a key to open the “electrically operated doors” of nerves.
- **TRPV1:** A sensor that detects the heat and spiciness of chili peppers. When stimulated, it sends out “pain” and “hot” signals.
- **Blood–brain barrier (BBB):** A “checkpoint” that protects the brain. It prevents harmful substances from entering the brain.
- **Vagus nerve:** A nerve connecting the brain and the internal organs. It regulates heart rate, blood pressure, and digestion.

In short, magnetic nanoparticles can be thought of as “tiny antennas and switches placed inside the body.” When a magnetic field is applied from outside, they generate electricity or heat and can move nerves at will.

1. Head, Brain, and Nervous System

Symptom / Effect	Classification	Involved Sites	Mechanism of Magnetic Nanoparticles	Damage Check
Headache	Mixed type	Trigeminovascular system, meninges, thalamus	MENPs are gathered around the blood vessels and nerves of the head, and the magnetic field generates a small electric current. This widens the blood vessels, and the nerves fire “pain” signals on their own, producing a throbbing headache. The sensor that detects the heat and spiciness of chili peppers (TRPV1) is also stimulated, intensifying the pain.	☐
Head tightness and numbness	Mixed type	Occipital nerve, neck muscles, somatosensory cortex	MENPs are placed in the muscles of the neck and the back of the head, and the magnetic field makes those muscles stiffen. At the same time, the brain area that processes sensation is excited, strengthening the feeling of being squeezed. Physical stimulation of the muscles by the particles also causes numbness.	☐
Brain dysfunction	Automatic-dominant	Prefrontal cortex, hippocampus, thalamus	MENPs are gathered in the areas responsible for memory and judgment, and the magnetic field deliberately disrupts how the nerves connect. This leads to dulled judgment, confused memory, and an inability to organize one’s thoughts. MENPs regulate neural activity through the nerves’ “electrically operated doors” (calcium channels).	☐

Cerebral infarction and subarachnoid hemorrhage	Automatic-dominant	Cerebral blood vessels, blood–brain barrier (BBB)	MENPs are gathered on the walls of the brain’s blood vessels, and changes in the magnetic field temporarily loosen the checkpoint that protects the brain (the blood–brain barrier). In addition, the particles place a physical burden on the vessel walls, causing inflammation and weakening the vessels. As a result, blood clots form more easily and vessels rupture more easily. The heat from the particles can also increase the permeability of the checkpoint.	☐
Fainting	Mixed type	Medullary vasomotor center, vagus nerve	The vagus nerve, which connects the brain and the internal organs, is stimulated by MENPs, triggering a reflex that sharply lowers blood pressure and heart rate. Blood stops reaching the brain, and the person loses consciousness. Another approach is to upset the balance of the nerves that control the heart.	☐

2. Vision

Symptom / Effect	Classification	Involved Sites	Mechanism of Magnetic Nanoparticles	Damage Check
Blindness and blurred vision	Mixed type	Retina, optic nerve, visual cortex (V1)	MENPs are gathered in the nerves of the eye and the optic nerve, and the magnetic field impairs the passage of signals. Vision becomes poor or blurred, or is temporarily lost.	☐
Zoom phenomenon	Mixed type	Visual cortex, ciliary muscle	The brain’s visual area is partially excited, distorting the perception of object size. In addition, the muscle that focuses the eye is manipulated, throwing the focus off.	☐
Seeing images	Mixed type	Visual cortex (V1, V2)	The brain’s visual area is stimulated with magnetic field patterns, creating images even without light. Patterns and figures become visible.	☐
Photosensitive seizures	Mixed type	Visual cortex, thalamus, brainstem	The visual area is turned into an easily excited state. As a result, light that would normally be harmless begins to trigger seizures.	☐

3. Hearing

Symptom / Effect	Classification	Involved Sites	Mechanism of Magnetic Nanoparticles	Damage Check
Hearing loss	Mixed type	Cochlear hair cells, auditory nerve	MENPs are placed in the cells deep in the ear that detect sound, and in the auditory nerve, and are stimulated abnormally and continuously. The cells become exhausted and signals stop passing through, making sounds harder to hear.	☐
Tinnitus and abnormal sounds	Mixed type	Auditory cortex, cochlear nucleus	The auditory nerve is made to fire on its own. A ringing or buzzing sound is heard even though there is no actual sound.	☐
Hearing voices	Mixed type	Auditory association cortex, language areas	The brain area that processes language is stimulated and made to perceive sounds as meaningful voices. This becomes an auditory hallucination of “someone calling out.”	☐

4. Smell, Taste, and Oral Cavity

Symptom / Effect	Classification	Involved Sites	Mechanism of Magnetic Nanoparticles	Damage Check
Taste disorder	Mixed type	Taste buds of the tongue, solitary nucleus, insular cortex	The cells and nerves in the tongue that detect taste are stimulated, and metallic, bitter, or sweet tastes are generated on their own. The actual food tastes different from what it should.	☐
Smell disorder and abnormal odors	Mixed type	Olfactory nerve, olfactory bulb, piriform cortex	The olfactory nerve deep in the nose is made to fire on its own. Even though there is no odor, a “burning” or “rotten” smell is perceived.	☐
Post-meal oral discomfort	Mixed type	Oral mucosa, trigeminal nerve, insular cortex	MENPs are placed in the lining of the mouth, and a gritty, swollen, or foreign-body sensation is made to persist. The unpleasant feeling lingers long after eating.	☐

5. Chest, Circulatory, and Respiratory Systems

Symptom / Effect	Classification	Involved Sites	Mechanism of Magnetic Nanoparticles	Damage Check
Heart attack	Automatic-dominant	Sinoatrial node, conduction system, cardiac autonomic ganglia	MENPs are gathered at the place that sets the heart’s rhythm and at the clusters of nerves, and the magnetic field throws the heart’s electrical flow out of order. This causes arrhythmia or spasms in the blood vessels, producing a state like a heart attack. The heat from the particles can also inflame the heart muscle and make blood clots more likely.	☐
Visceral pain	Mixed type	Cardiac sensory nerves, dorsal horn, thalamus	MENPs act on the sensory nerves of the heart and large blood vessels, and the magnetic field makes the pain nerves fire on their own. Chest pain like angina occurs, and the pain may also spread to the arm or jaw.	☐
Blood pressure manipulation	Automatic-dominant	Medullary vasomotor center, baroreceptors, vascular smooth muscle	MENPs are gathered in the brain area that regulates blood pressure and in the pressure sensors in the blood vessels of the neck, and the magnetic field disrupts blood pressure regulation. Blood pressure suddenly rises or falls, causing a hypertensive crisis, dizziness, or fainting. Contracting the muscle in vessel walls can also narrow the vessels.	☐
Breathlessness	Mixed type	Medullary respiratory center, vagus nerve, phrenic nerve	MENPs are gathered in the brain area that regulates breathing and in the vagus nerve, and the magnetic field generates abnormal breathing signals. Even when oxygen is sufficient, the person feels unable to breathe. Stimulating the nerve that moves the diaphragm causes the diaphragm to spasm and breathing to become rapid.	☐

6. Abdomen, Digestive System, and Internal Organs

Symptom / Effect	Classification	Involved Sites	Mechanism of Magnetic Nanoparticles	Damage Check
Nausea and vomiting	Automatic-dominant	Area postrema, chemoreceptor trigger zone (CTZ), vagus nerve	MENPs are gathered in the brain's "nausea switch" (the area postrema) and in the vagus nerve, and the magnetic field triggers the nausea reflex. Reversing the movement of the stomach causes actual vomiting. Stimulating the balance organ in the inner ear can also cause motion-sickness-like nausea.	☐
Visceral dysfunction	Automatic-dominant	Enteric nervous system, autonomic nerves, hypothalamus	MENPs are placed in the clusters of intestinal nerves and in the vagus nerve, and the magnetic field disrupts the rhythm of intestinal movement. Food passes through the intestine too quickly or too slowly, and digestion and absorption become abnormal. Manipulating the brain's autonomic center can also change how much blood flows to the internal organs.	☐
Constipation and diarrhea	Automatic-dominant	Intestinal smooth muscle, enteric nervous system, spinal defecation center	For constipation, MENPs suppress intestinal movement and make the anal muscles stiffen, blocking defecation. For diarrhea, the opposite happens: the parasympathetic nerves are overactivated, increasing intestinal movement and fluid secretion. When the particles physically stimulate the intestinal wall, cramping abdominal pain with diarrhea can also occur.	☐

7. Excretion, Reproduction, and Sexual Harm

Symptom / Effect	Classification	Involved Sites	Mechanism of Magnetic Nanoparticles	Damage Check
Manipulation of excretion	Mixed type	Pontine micturition center, sacral micturition reflex, external urethral sphincter	MENPs are gathered in the brain's urination switch and in the pelvic nerves, and the magnetic field strengthens or weakens the urination reflex. Urgency becomes abnormally strong (frequent urination), or the opposite occurs and urine cannot be released (urinary retention). Manipulating the muscle that closes the urethra can take away voluntary control of urination.	☐
Incontinence	Mixed type	External urethral sphincter, external anal sphincter, pudendal nerve	MENPs are gathered in the nerves that move the muscles closing the urethra and anus, and the magnetic field throws off the timing of tightening. Urine leaks even when the bladder is not full, and gas or stool can no longer be held. Manipulating the spinal nerves can take away voluntary control of the sphincters.	☐
Genital pain, sensation of insertion, and feeling of sexual abuse	Mixed type	Pudendal nerve, sacral cord, insular cortex, amygdala	MENPs act on the sensory nerves of the genital area and the spinal nerves, and the magnetic field makes the pain nerves fire on their own. Without any actual stimulation, burning, stinging, or a sensation of insertion occurs. When the brain's emotional areas (the insular cortex and amygdala) are also stimulated, the sensation is accompanied by the intense distress of being abused.	☐

8. Movement, Balance, and Muscles

Symptom / Effect	Classification	Involved Sites	Mechanism of Magnetic Nanoparticles	Damage Check
Involuntary movements	Voluntary-dominant (rendered involuntary externally)	Primary motor cortex, pyramidal tract, motor neurons	MENPs are gathered in the brain area that issues movement commands and in the spinal nerves, and the magnetic field generates abnormal electrical signals. The muscles of the arms, legs, or face twitch or jerk on their own. Manipulating the calcium channels of motor neurons can also cause abnormal muscle contraction.	☐
Muscle stiffness	Mixed type	Muscle spindles, alpha motor neurons, spinal reflex arc	MENPs are gathered in the muscle sensors and in the spinal reflex circuits, and the magnetic field keeps the muscles tense. The muscles stay stiff and do not relax, producing rigidity like spastic paralysis or a state of being unable to move while holding a posture. Manipulating the flow of calcium in the muscles can also keep them contracted without relaxing.	☐
Dizziness and loss of balance	Automatic-dominant	Vestibular apparatus, vestibular nuclei, cerebellum	MENPs act on the balance organ in the inner ear and on the vestibular nerve, and the magnetic field generates abnormal balance signals. Even without moving, the person feels “spinning” or “tilting.” Stimulating the cerebellum causes unsteady walking or falls.	☐
Sleep paralysis	Mixed type	Brainstem (REM sleep regulation), motor cortex, spinal cord	MENPs are gathered in the brainstem nerves involved in REM sleep and in the spinal system that suppresses movement, and the magnetic field causes the “body cannot move” state of REM sleep to occur while awake. The person is fully conscious but unable to move—a state of sleep paralysis. Stimulating the amygdala produces sleep paralysis accompanied by fear.	☐

9. Skin, Body Surface, and Whole-Body Sensation

Symptom / Effect	Classification	Involved Sites	Mechanism of Magnetic Nanoparticles	Damage Check
Cuts, burns, and skin disorders	Mixed type	Cutaneous nociceptive fibers, keratinocytes, mast cells	MENPs are gathered on the surface of the skin and around the hair follicles, and the magnetic field makes them produce heat. This causes redness and blisters like a mild burn. When the particles physically stimulate the skin cells, inflammation-causing substances are released, producing eczema-like rashes and itching. Stimulating the cells that release the itch substance (histamine) can also create intense itching.	☐
Vibration	Mixed type	Muscle spindles, cutaneous mechanoreceptors, dorsal horn	MENPs are gathered in the muscle sensors and in the organs in the skin that detect vibration, and the magnetic field generates abnormal vibration signals. Even though the body is not actually shaking, it feels as if it is vibrating. Stimulating the vibration-sensing nerves in the spinal cord can produce a vibration sensation over the whole body.	☐
Electric sensation	Mixed type	Peripheral nerves, dorsal horn, thalamus	MENPs are gathered along the peripheral nerves, and the magnetic field generates abnormal electricity. The nerves fire on their own, producing tingling and buzzing electric sensations. Stimulating the sensory relay station in the thalamus can also produce an	☐

			electric sensation that spreads across the whole body.	
Shock-like pain	Mixed type	Nociceptive fibers, dorsal horn, insular cortex	MENPs act on the nerves that carry pain, and the magnetic field makes them fire at high frequency. Without any actual injury, sharp pain occurs as if the person had been struck or stabbed. Stimulating the brain area that governs the emotional aspect of pain (the insular cortex) turns it into intense pain accompanied by fear.	☐
Heat sensation	Mixed type	TRPV1 receptors, hypothalamic thermoregulatory center, insular cortex	MENPs are gathered in the nerves that carry the sensor for heat and the spiciness of chili peppers (TRPV1), and the magnetic field directly stimulates TRPV1. Without any actual rise in temperature, the person feels “hot” or “burning.” Manipulating the brain’s temperature-control center can also produce a fever-like heat sensation over the whole body.	☐
Weakness and fatigue	Mixed type	Motor neurons, muscle fibers, hypothalamus, striatum	MENPs act on motor neurons and on the junction between nerve and muscle, and the magnetic field weakens the signal from nerve to muscle. The muscles can no longer contract properly, producing a sense of having no strength or of the body feeling heavy. Manipulating the brain areas involved in motivation (the hypothalamus and striatum) can also cause central fatigue, in which the person cannot muster any drive. The heat from the particles can reduce the function of the cell’s energy factory (the mitochondria), creating a sense of energy depletion.	☐

10. Mind, Psychology, Cognition, Consciousness, and Thought

Symptom / Effect	Classification	Involved Sites	Mechanism of Magnetic Nanoparticles	Damage Check
Emotion manipulation	Mixed type	Amygdala, prefrontal cortex, insular cortex, striatum	MENPs are gathered in the brain’s emotional center (the amygdala) and its rational area (the prefrontal cortex), and the magnetic field regulates the activity of emotion circuits. Anxiety, fear, anger, and sadness can be artificially strengthened or weakened. Stimulating the brain’s reward system (the striatum) can produce unfounded elation or pleasure. Stimulating the insular cortex produces emotions accompanied by bodily sensations such as chest tightness.	☐
Anxiety and suspicion	Mixed type	Amygdala, locus coeruleus, HPA axis	MENPs are gathered in the amygdala and the locus coeruleus (the alert switch), and the magnetic field promotes the release of noradrenaline. Unfounded anxiety, suspicion of others, and excessive vigilance occur. Stimulating the brain’s stress command system (the HPA axis) causes stress hormones to be released continuously, producing a chronic state of tension.	☐
Mental disorders	Mixed type	Prefrontal cortex, hippocampus, nucleus accumbens, amygdala	MENPs act on the prefrontal cortex and hippocampus, and the magnetic field abnormally regulates how the nerves connect (plasticity). Symptoms like depression such as apathy and pessimism, anxiety-disorder-like symptoms, and hallucinations and delusions occur. Manipulating the dopamine system of the nucleus accumbens can also produce addiction-like craving or a state in which pleasure is hard to feel.	☐

Thought broadcasting	Mixed type	Temporal lobe, prefrontal cortex, auditory association cortex	MENPs are gathered in the brain areas that handle language and in the auditory association cortex, and the magnetic field disrupts the neural activity related to the inner voice (inner speech). The person feels that “my thoughts are leaking out” or that “others are reading them.” Whether or not they are actually being read, the sense of being watched grows stronger.	☐
Consciousness intervention	Mixed type	Brainstem reticular formation, thalamus, prefrontal cortex	MENPs act on the brainstem area involved in wakefulness and on the thalamus, and the magnetic field regulates the level of consciousness. A hazy state of consciousness, a dissociative feeling, or the opposite—abnormal wakefulness—occurs. Suppressing the activity of the prefrontal cortex lowers judgment and makes the person more susceptible to suggestion.	☐

11. Sleep, Appetite, and Sexual Desire (Manipulation of the Three Drives)

Symptom / Effect	Classification	Involved Sites	Mechanism of Magnetic Nanoparticles	Damage Check
Insomnia and sleep disruption	Automatic-dominant	Hypothalamus (orexin neurons, VLPO), suprachiasmatic nucleus, brainstem	MENPs act on the nerves that release the substance that keeps us awake (orexin), and the magnetic field strengthens the wakefulness signal. Suppressing the area that promotes sleep (the VLPO) makes it hard to fall asleep and causes waking in the middle of the night. Disrupting the body’s clock center (the suprachiasmatic nucleus) produces a state of not being able to sleep at night and feeling sluggish during the day.	☐
Overeating and loss of appetite	Automatic-dominant	Hypothalamus (arcuate nucleus, ventromedial nucleus), reward system	MENPs are gathered in the brain area that regulates appetite (the arcuate nucleus), and the magnetic field regulates the activity of appetite nerves. For overeating, the nerves that promote appetite are activated and the sense of fullness is dulled. For loss of appetite, the opposite happens: the person feels full quickly or becomes nauseated. Stimulating the brain’s reward system can also create a strong craving for a particular food.	☐
Sexual arousal and reduced libido	Mixed type	Hypothalamus (sexually dimorphic nucleus), amygdala, sacral cord	MENPs act on the brain’s sexual center and on the reflex center in the spinal cord, and the magnetic field regulates autonomic and vascular responses. For sexual arousal, the parasympathetic nerves are activated to increase blood flow and cause an erection. For reduced libido, the sympathetic nerves are made dominant, causing erectile dysfunction and lowered sexual desire. Stimulating the amygdala can also produce unfounded sexual arousal or disgust.	☐

12. Autonomic Nervous System, Endocrine System, and Physiology

Symptom / Effect	Classification	Involved Sites	Mechanism of Magnetic Nanoparticles	Damage Check
Menstrual manipulation	Automatic-dominant	Hypothalamic–pituitary–ovarian axis, uterine smooth muscle	MENPs are gathered in the brain nerves that release the hormone command (GnRH) and in the pituitary gland, and the magnetic field regulates hormone secretion. The menstrual cycle becomes irregular, stops, or abnormal bleeding occurs. Applying MENPs to the uterine muscle can also cause menstrual-cramp-like spasms and uterine contractions.	☐
Constitutional manipulation	Automatic-dominant	Hypothalamus (thermoregulatory and metabolic centers), thyroid, adrenal glands	MENPs act on the brain's temperature-control and metabolism centers, and the magnetic field changes basal metabolism and the temperature set point. Regulating the secretion of thyroid hormones and adrenal hormones produces states such as easy fatigability, weight changes, and abnormal body temperature.	☐
Attack on hormone glands	Automatic-dominant	Pituitary, thyroid, adrenal glands, pancreatic islets	MENPs are gathered in the glands that secrete hormones, and the magnetic field makes them produce heat, causing inflammation and cell damage. Pituitary function declines, thyroid function becomes abnormal, the adrenal glands weaken, or insulin secretion is disrupted. When hormonal balance collapses, it has wide-ranging effects on the body's metabolism, immunity, and mental state.	☐

13. Illness, Seizures, and Death (Cross-Cutting)

Symptom / Effect	Classification	Involved Sites	Mechanism of Magnetic Nanoparticles	Damage Check
Cold symptoms	Mixed type	Hypothalamus (fever center), immune system, upper respiratory tract	MENPs act on the brain's fever center, and the magnetic field promotes the production of the substance that causes fever (prostaglandin). Even without an infection, fever, chills, and malaise occur. Gathering MENPs in the mucous membranes of the nose and throat can also cause local inflammation such as a runny nose, cough, and sore throat.	☐
Cancer	Mixed type	Cellular DNA, immune surveillance	The heat and reactive oxygen species from MENPs are used to damage the blueprint (DNA) of normal cells. If the immune surveillance function is weakened by MENPs, abnormal cells become harder to eliminate. However, this is only a laboratory-level hypothesis, and it is extremely difficult in practice to artificially control cancer development.	☐
Disease induction	Mixed type	Immune system, autonomic nerves, endocrine system	MENPs act on immune cells and on the clusters of autonomic nerves, inducing abnormal release of inflammation-causing substances and malfunction of the immune system. Autoimmune-like inflammation, allergic reactions, and chronic inflammation occur. Manipulating the brain's stress command system (the HPA axis) can also induce stress-related illnesses such as gastric ulcers, high blood pressure, and depression.	☐
Death of confirmed victims	Mixed type	Heart, cerebral vessels, respiratory center	MENPs are gathered at the place that sets the heart's rhythm and at the respiratory center in the brainstem, and the magnetic field causes fatal arrhythmia (ventricular	☐

			fibrillation) or respiratory arrest. Alternatively, MENPs are gathered in the brain's blood vessels, and the heat weakens the vessels, causing subarachnoid hemorrhage or cerebral infarction. These are easily handled as "natural deaths" or "accidental deaths," and the greatest problem is that almost no evidence remains.	
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