NENA Sim
SIMULATOR FOR NEONATAL TRAINING

NENASim Infant models comparison

	General	Xtreme	HPS	ALS+	ALS SW	ALS	Care
1.1	Wireless and tetherless neonatal human patient simulator	✓	✓	✓	✓	✓	✓
1.2	Battery for use without external power supply	✓	✓	✓	✓	✗	✗
1.3	Reproduction of a skeletal and anatomical structure of a baby	✓	✓	✓	✓	✓	✗
1.4	Realistic baby size and weight	**5 kg**	**5 kg**	**5 kg**	**2,5 kg**	**2,5 kg**	**5 kg**
1.5	Head to toe (length): 65 cm	✓	✓	✓	✓	✓	✓
1.6	Hand to hand: 50 cm	✓	✓	✓	✓	✓	✓
1.7	Life-like skin features and skin tone	✓	✓	✓	✓	✓	✓
1.8	Silicon skin at room temperature	✓	✓	✓	✓	✓	✓
1.9	Flexible limbs, back and neck	✓	✓	✓	✓	✓	✓
1.10	Simulated human patient monitor which is connected to the NENASim	✓	✓	✓	✓	✗	✗
1.11	Ideal for BLS and ALS training	✓	✓	✓	✓	✓	✗
1.12	Ideal for scenario training	✓	✓	✗	✗	✗	✗
1.13	Ideal for medical treatment training	✓	✓	✗	✗	✗	✗
1.14	Ideal for on-site training and field training	✓	✓	✓	✓	✓	✓
1.15	Ideal for (multidisciplinary) team training	✓	✓	✓	✓	✓	✓

	Head	Xtreme	HPS	ALS+	ALS SW	ALS	Care
2.1	Life-like face and skin	✓	✓	✓	✓	✓	✓
2.2	Head movement	✓	✓	✗	✗	✗	✗
2.3	Head tilt for CPR	✓	✓	✓	✓	✓	✗
2.4	Eyelid movements	✓	✓	✗	✗	✗	✗
2.5	Possibility to open the eyelids manually	✓	✗	✗	✗	✗	✗
2.6	Dilating pupils	✓	✗	✗	✗	✗	✗
2.7	Fontanel with palpable pulse and adjustable depth	✓	✓	✗	✗	✗	✗
2.8	Possibility of cyanosis, jaundice, red and pale coloring of the cheeks and chin	✓	✗	✗	✗	✗	✗
2.9	Vocal sounds: laughing, crying, hiccups, coughing and breathing	✓	✓	✗	✗	✗	✗
2.10	Easy to disinfect and clean the head	✓	✓	✓	✓	✓	✓

MEDICAL
SIMULATORS FOR MEDICAL TRAINING

	Torso	Xtreme	HPS	ALS+	ALS SW	ALS	Care
3.1	Life-like torso	✓	✓	✓	✓	✓	✓
3.2	Bladder for catheterization	✓	✗	✗	✗	✗	✗
3.3	Possibility of cyanosis, jaundice, red and pale coloring of the hands and feet	✓	✗	✗	✗	✗	✗
3.4	Hip click	✓	✗	✗	✗	✗	✗
3.5	IV in arm	✓	✓	✗	✗	✗	✗
3.6	Easy to disinfect and clean the torso	✓	✓	✓	✓	✓	✓
3.7	IO in leg	✓	O	O	O	O	O
3.8	Temperature measurement (rectal)	O	✗	✗	✗	✗	✗

	Airway	Xtreme	HPS	ALS+	ALS SW	ALS	Care
4.1	Realistic airway with tongue, vocal cords, trachea and esophagus	✓	✓	✓	✓	✓	✗
4.2	Oropharyngeal and nasopharyngeal airways	✓	✓	✓	✓	✓	✗
4.3	Easy to disinfect and clean the mouth	✓	✓	✓	✓	✓	✗
4.4	Head tilt / chin lift	✓	✓	✓	✓	✓	✗
4.5	Jaw-thrust maneuver	✓	✓	✓	✓	✓	✗
4.6	Realistic resistance of the airway	✓	✓	✓	✓	✓	✗
4.7	Smooth intubation	✓	✓	✓	✓	✓	✗
4.8	Orotracheal, endotracheal and nasotracheal intubation	✓	✓	✓	✓	✓	✗
4.9	Fiberoptic intubation	✓	✓	✓	✓	✓	✗
4.10	Left / right bronchial intubation (split intubation)	✓	✓	✓	✓	✓	✗
4.11	Esophageal intubation	✓	✓	✓	✓	✓	✗
4.12	Needle decompression	✓	✓	✗	✗	✗	✗
4.13	Pneumothorax, chest tube insertion (axillary)	✓	✗	✗	✗	✗	✗
4.14	Variable lung compliance	✓	✗	✓	✓	✓	✗
4.15	Variable lung compliance shows on software	✓	✗	✗	✗	✗	✗
4.16	Ventilation measurement and feedback in software	✓	✗	✗	✗	✗	✗
4.17	Oxygen delivery procedures	✓	✓	✓	✓	✓	✗
4.18	Ability to insert a laryngeal mask	✓	✓	✓	✓	✓	✗
4.19	Ability to use a bag valve mask	✓	✓	✓	✓	✓	✗
4.20	Ability to use a nasopharyngeal airway	✓	✓	✓	✓	✓	✗

	Pulmonary System	Xtreme	HPS	ALS+	ALS SW	ALS	Care
5.1	Realistic breathing and belly movements	✓	✓	✓	✗	✗	✗
5.2	Realistic chest rise and fall (during ventilation)	✓	✓	✓	✓	✓	✗
5.3	Unilateral chest rise and fall	✗	✗	✓	✓	✓	✗
5.4	Bilateral chest rise and fall	✓	✓	✓	✓	✓	✗
5.5	Chest breathing / See-saw breathing	✓	✗	✗	✗	✗	✗
5.6	Spontaneous breathing with variable rate, depth and regularity	✓	✓	✓	✗	✗	✗
5.7	Bilateral normal and abnormal breathing sounds	✓	✓	✗	✗	✗	✗
5.8	Auscultation of lung sounds	✓	✓	✗	✗	✗	✗
5.9	Lung sounds: normal, course crackles, fine crackles, stridor, wheezes, rhonchi and more	✓	✓	✗	✗	✗	✗
5.10	Lung sounds synchronized with breathing movement / rate and ECG	✓	✓	✗	✗	✗	✗
5.11	Oxygen saturation	✓	✓	✗	✗	✗	✗

MEDICAL X
SIMULATORS FOR MEDICAL TRAINING

	Cardiovascular System	Xtreme	HPS	ALS+	ALS SW	ALS	Care
6.1	12 lead dynamic ECG display	✓	✓	✓	✓	✘	✘
6.2	Extensible ECG library	✓	✓	✘	✘	✘	✘
6.3	ECG synchronized with pulse	✓	✓	✓	✓	✘	✘
6.4	ECG synchronized with compressions	✓	✓	✓	✓	✘	✘
6.5	ECG synchronized with heart sounds	✓	✓	✘	✘	✘	✘
6.6	Observe blood circulation vital signs like blood pressure, pulse rate and respiratory rate on the patient monitor	✓	✓	✓	✘	✘	✘
6.7	Bilaterally palpable femoral pulse	✓	✓	✘	✘	✘	✘
6.8	Bilaterally palpable axillary pulse	✓	✓	✘	✘	✘	✘
6.9	Palpable fontanel pulse	✓	✓	✘	✘	✘	✘
6.10	Umbilical cord	✓	O	O	O	O	O
6.11	Adjustable heart rate	✓	✓	✓	✓	✘	✘
6.12	Heart sounds: normal, systolic murmur, holosystolic murmur, diastolic murmur and more	✓	✓	✘	✘	✘	✘
6.13	Heart sounds synchronized with heart rate and ECG	✓	✓	✘	✘	✘	✘
6.14	Software feedback on the CPR depth and frequency	✓	✓	✓	✓	✘	✘
6.15	Software feedback on the number of compressions and pause lengths between compressions	✓	✓	✓	✓	✘	✘
6.16	CPR compressions generate corresponding pulses, blood pressure waveforms and ECG	✓	✓	✓	✓	✘	✘
6.17	Live defibrillation	✓	✓	✘	✘	✘	✘

	Cardiovascular System	Xtreme	HPS	ALS+	ALS SW	ALS	Care
7.1	Wireless stethoscope simulator	✓	✓	✘	✘	✘	✘
7.2	Listen to isolated sounds without background noise	✓	✓	✘	✘	✘	✘
7.3	Listen to the heart (right, left, right side, left side), lungs (left, right) and bowel sounds	✓	✓	✘	✘	✘	✘
7.4	Software feedback on placement of the stethoscope simulator	✓	✓	✘	✘	✘	✘

	Package Components	Xtreme	HPS	ALS+	ALS SW	ALS	Care
8.1	NENASim HPS neonatal simulator	✓	✓	✓	✓	✓	✓
8.2	Suitcase with wheels	✓	✓	✓	✓	✓	✓
8.3	Charger with power cable	✓	✓	✓	✓	✘	✘
8.4	Stethoscope simulator with USB charger cable	✓	✓	✘	✘	✘	✘
8.5	Drainage tube	✘	✓	✘	✘	✘	✘
8.6	Software	✓	✓	✓	✓	✘	✘
8.7	Manual	✓	✓	✓	✓	✓	✓