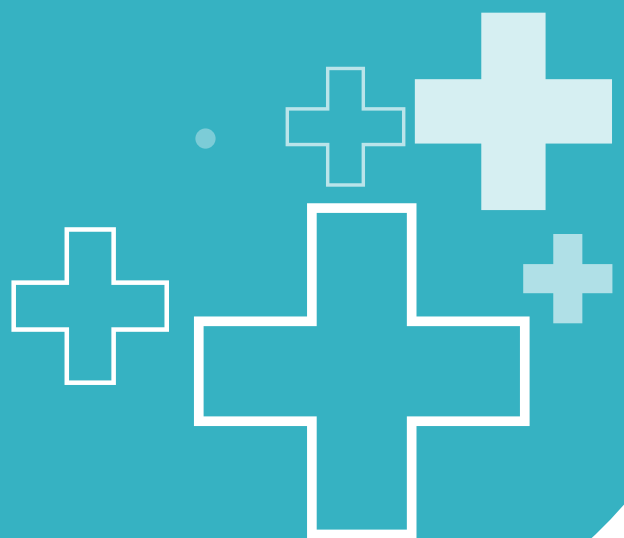


# Digital Health for Musculoskeletal Rehabilitation

MSKalign™ Intelligent Analysis and Treatment Platform



The logo for CoNova Medical Technology, featuring the word "CONOVA" in a stylized, teal, blocky font. The letter "O" is replaced by a teal square containing a white plus sign.

科洛华

## COMPANY PROFILE

CoNova Medical Technology, initiated by clinical experts, targets real clinical need. Based on a big database with structured and unstructured data of spine disorders and more than ten years of follow-ups, CoNova Medical Technology launched an international leading spinal exercise and rehabilitation platform: MSKalign™. MSKalign™ revolutionises management for out-of-hospital and in-hospital spine disorders, including scoliosis and back pain. CoNova is the sole intelligent orthopaedics complete solution provider globally.

The volume of patients suffering from spine disorders is large. The clinical load is heavy. Despite the large volume of patients in China, accurate screening, radiation-free diagnosis, chronic disease management, non-surgical treatment, compliance tracking, and optimised rehabilitation are lacking. MSKalign™ intelligent platform developed by CoNova Medical Technology can fulfil multiple needs for the patients and facilitate clinics in fast screening, accurate multi-pathological analysis, disease progress predictions and self-healing, thereby providing a breakthrough in management of spinal disorders.

The spine market in China is large, with unlimited potentials. From 2018 to 2022, multiple products under CoNova Medical technology have received government research, development support and external donations totaling HKD 33 million.

# Spinal disorders are common



## Spine screening and diagnosis cost lists:

Only including the check-up and consultation fees (not including rehabilitation, equipment or surgical costs)

**\$** Screening cost > \$24.66  
 Diagnosis cost > \$ 3386.25  
 In US Treatment planning cost > \$10836.00

**¥** ¥50-160/per capita  
 ¥1500-20000/per capita  
 In China ¥5000-200000/per capita

## Estimated patient volume

- Back pain: more than 60% of the senior population;
- Approximately 300,000,000 patients in China, of which 80% undergo conservative management and 20% undergo surgeries;
- Scoliosis: up to 5% of the adolescent population;
- Approximately 6,000,000 patients require at least a yearly check-up;

## The current situation in China

- Current most common reason for seeking professional advice is severe cases including pain and cardiopulmonary complications;
- Spinal disorders significantly impair life quality and work efficiency;
- The prevention and screening of spine disorders in China is behind the international standards.

## Have you experienced these?

- Long duration desk work/watching TV
- Looking at a mobile phone or reading books for a long time
- Carrying bags on one shoulder
- Back pain or neck pain
- Numbness in hands or legs



## Core value

Realise “User (patient) – doctor alliance” using remote rehabilitation and compliance tracking to unify online and offline continuous care.



## Patient whole journey intelligent service

MSKalign™ doctor’s terminal provides clinics with a unified management platform for patients. The patient terminal can facilitate communication with clinicians and daily rehabilitation exercises.



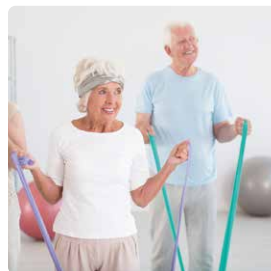
## Applications



Chronic spinal disorders management



Post-operative recovery management



Exercise and general wellness management



Postpartum musculoskeletal management

# Product technical features

A digital health platform for patient and doctor alliance



## Postpartum rehabilitation management

MSKalign™ provides 100+ rehabilitation videos and home exercise plans for clinicians to recommend to the patients



## Outcome evaluations

Via continuous tracking of patients exercising according to the personalised treatment plan, improved treatment outcomes can be achieved.



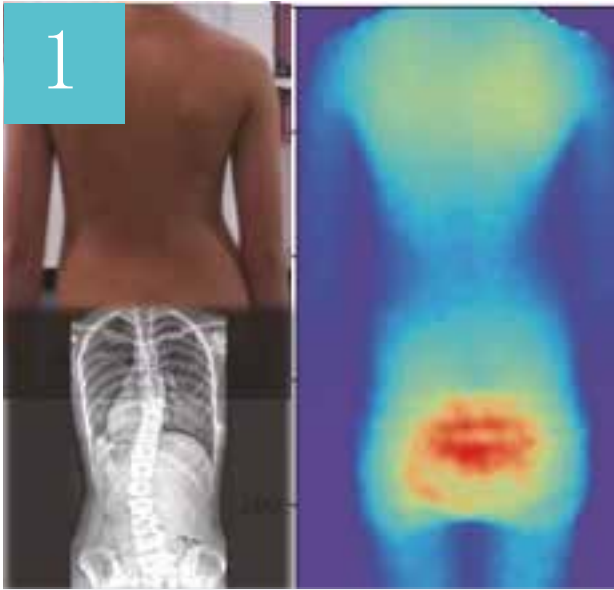
## On-line video follow-up

Via online video and interactions, remote care can be provided. AI tracking can facilitate out-of-hospital rehabilitation. Combining with wearable devices, reliable information can be collected to improve patient compliance.



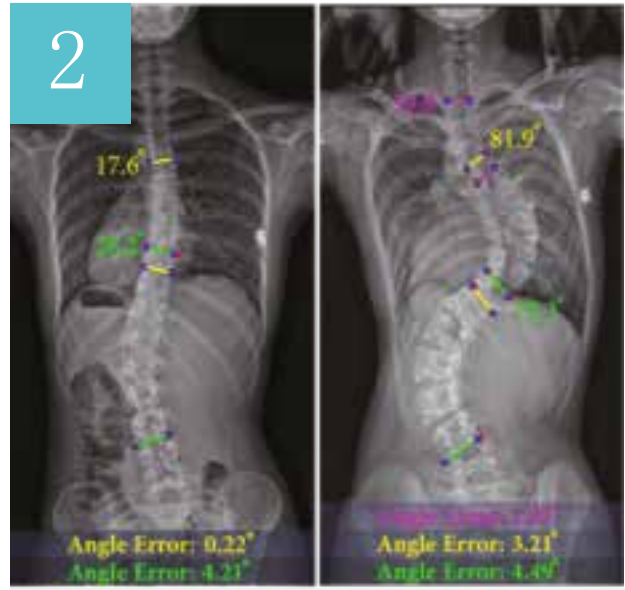
## Patient call back management

Via periodic information analysis, system analysis, reminding alerts and patient interactive education, the patient compliance and call back rate will be improved.



AI detection of scoliosis severity on back images

User: patients (C)



Fast alignments quantifications

User: clinicians (B)



AI auto-recommendations of exercises

User: clinicians (B)



AI tracking of exercise outcomes

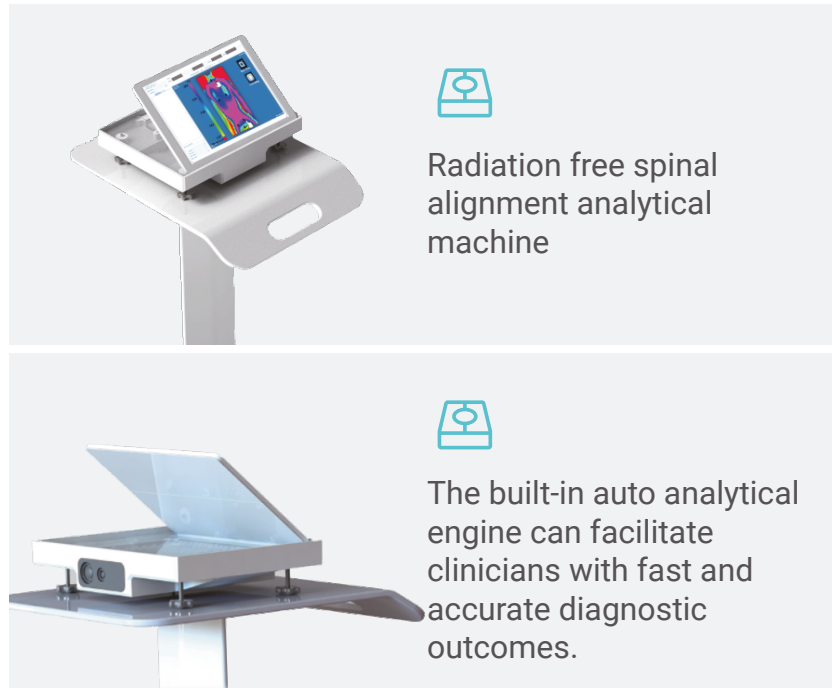
User: patients (C)

# AI Service Artificial Intelligence

# Intelligent devices and equipment

## AI precision evaluation system

It is an AI-driven precision treatment system and device, which has already undergone clinical testing at two spine centres. This system and device can facilitate clinicians in quantitatively analysis using 3D back models with no radiation exposure.



## 3D bracing design and personalised manufacturing

Based on the 3D back model, using 3D printing and optimised lattice structural design, patients are provided with a comfortable and useful brace.





# Platform function introduction

1

## Patient/user education

Easy reading articles and rehabilitation videos for clinicians to recommend to patients for a better understanding of their own conditions and the progress of their diseases.

2

## Patient compliance management

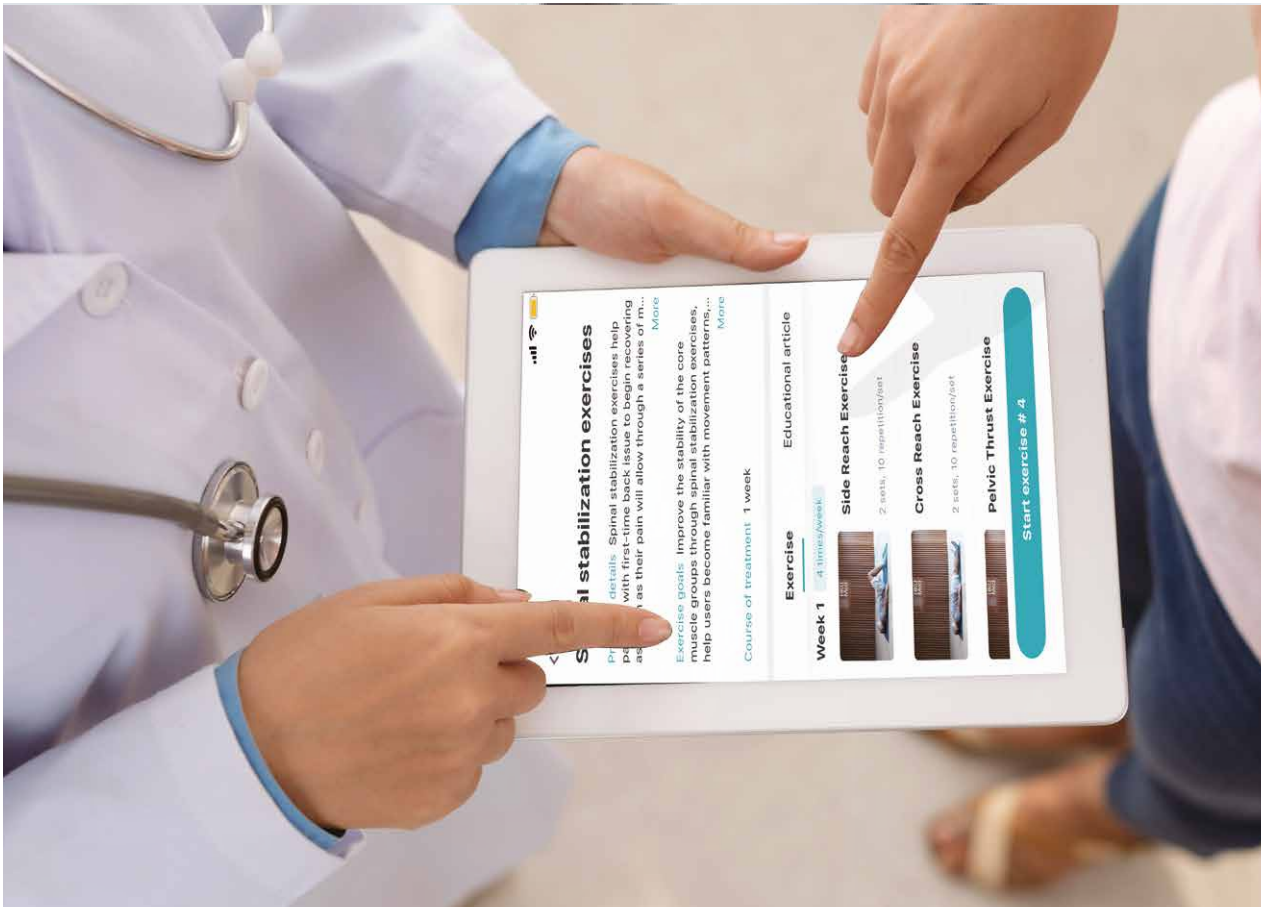
Auto-reminder, record checking and milestone management can help clinicians in better management of patient compliance.

3

## Rehabilitation plans and digital health

Numerous amounts of rehabilitation plans and exercise videos for the patients to realise self-management. The real-time tracking by AI can help the users to perform self-assessments.





## 4

### Treatment outcome analysis

Multi-dimensional analysis of demographics, questionnaires, exercise outcomes, user feedbacks, wearable device feedbacks, rehabilitation compliance and other results. Provide the AI engine with enough information for upgrading treatment planning and provide clinical research scientific evidence.

## 5

### Patient-clinician communication

Supporting telemedicine and providing patients with comprehensive patient profiles for a better understanding of the patients' conditions and the stage of their disease. Reduce the necessity of hospitalization and improve medical care efficiency.

## 6

### Document management

Provide secured document storage and data sharing services. Digital signature management to reduce the need for physical attendance and travel. All documents are decentralised-stored and encrypted to protect patient privacy.

# Complete solution

## 01 Post-operative rehabilitation and digital follow-up solution



1. Numerous amounts of rehabilitation videos for the clinicians to select from to develop the most suitable recovery plan
2. Clinicians can achieve online management of patients who visit their clinics
3. AI can prepare a personalised recovery plan, based on the demographics, questionnaires results, and medical images of each patient
4. AI home assistant can help the patient track and assess their own progress of recovery

### Advantages

- Remote recovery monitoring and remote instructions to local nurses on specific caring and rehabilitation tasks
- Home caring and self-management to reduce hospitalisation
- Reduce unexpected clinical absence
- Provide high-quality online expert services

## 02 Rehabilitation centre user management and outcome enhancement solution

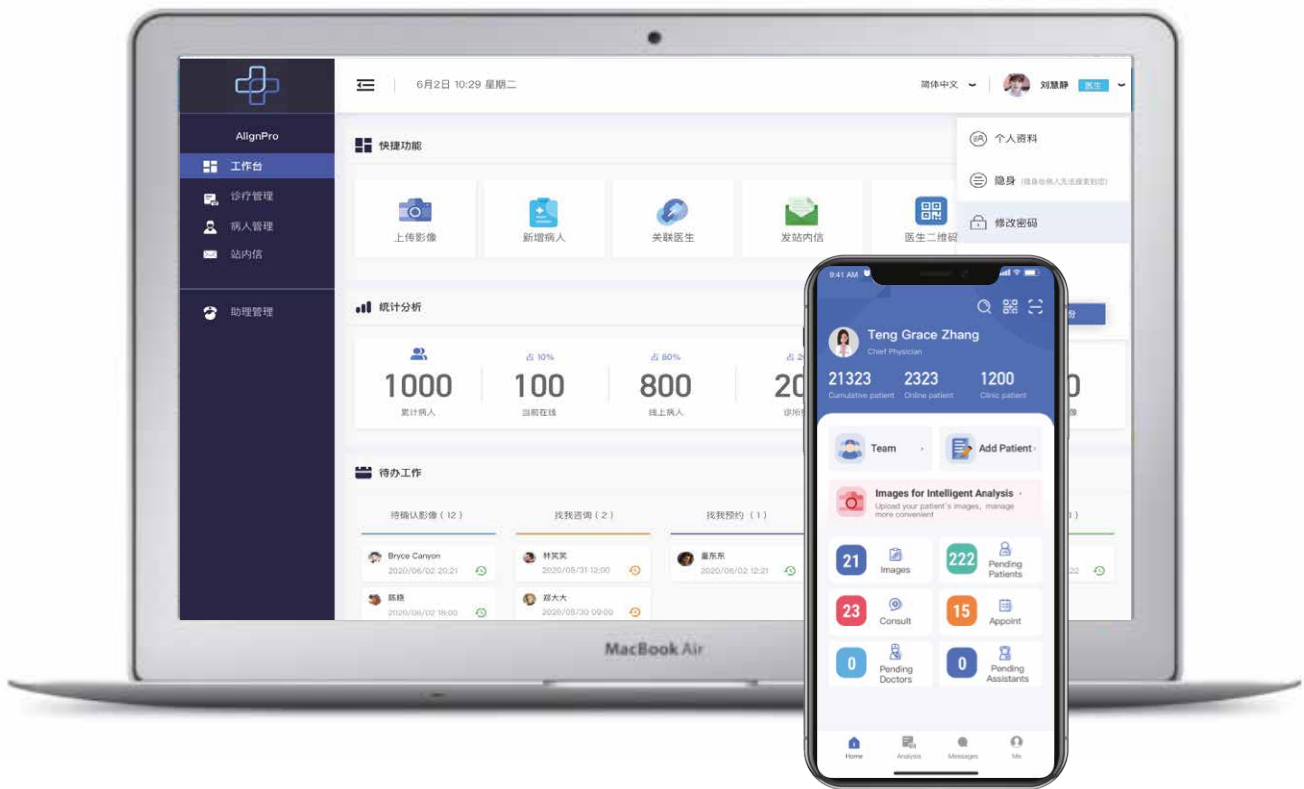
1. Numerous amount of rehabilitation videos for the clinicians to choose from to customise the clinician-specific plan
2. System auto-reminder and periodic analysis will enhance the user experience and compliance to the treatment.
3. Online communications facilitate real-time care and enhance the user participation.
4. AI home assistant can help the patient track and assess their own progress of recovery.

### Advantages

- Reduce travel to the clinics for physical checkups and physiotherapies
- Extend the coverage for each rehabilitation centre
- Improve the user satisfaction rate
- Achieve improved rehabilitation outcomes

# PC terminal is ready for use

PC terminal - AI auto-analysis and disease progression prediction



# Mobile terminal is published

The mobile terminals – fast screening, real-time tracking and easy communications



IOS



Android



IOS



Android



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