TELE-ECHO REPORTING SYSTEM

About Us

KALPAK was established with the aim of providing quality and affordable Healthcare Services for the health specialist across the globe through Telemedicine reporting software. Company has been in existence for more than three years. The company is basically engaged in the development of the tele reporting systems. The company is headed by the IT professional who has more than 40 years experience in IT. The reporting software for ECHO has been developed in consultation with renowned cardiologist in India.

Our Mission

To assist the specialised doctors to prepare the reports with few clicks of the mouse in no time.

What Does 2D-Echo Indicate

It provides wealth of information about your heart, its size, shape and condition of all the layers of the heart, damage to any tissue of the heart. It finds the pumping capacity of the heart and tells you if the heart is failing or has failed. It tells you if you are on the way to get any blockage or already have blockage. It tells you the conditions of various valves and arteries - whether the valves are stiff, narrow or leaking. It tells you about the flow of blood, its speed and the pressure as it flows through various chambers, valves and vessels

It gives you a good idea about the aging of the heart. It gives sufficient understanding of the lung condition. In the management of cancer, Echo is used in every step to monitor various treatments that are offered. Echocardiogram help us to access various biomedical conditions that affect the heart like high or low sodium, high or low potassium, kidney failure, stroke etc. Today we know echo is essential before anaesthesia or any other condition which make us assess the fitness of the patient. For cancer patients on chemotherapy Echo is a boon to look at safety of various drugs on heart

Standard Practice

Whenever a patient desires / is advised to have an Echo of the heart, the patient visits a cardiologist for Echo. At times the patient travels kilometres together to get services of such cardiologist. Once the patient visits the cardiologist, cardiologist takes Echo and provides medical consultancy to the patient. Normally there are very few cardiologists available to provide such services.

In such a scenario the patients who are in urban areas manage to get good medical health check-ups whereas patients from distant villages are unable to travel to urban areas and get such qualified services and hence they do not get proper and timely medical advice from experts.

Even in urban areas a specialist cardiologist moves from one hospital to another hospital for providing services and in emergencies she/he also gets stuck for want of time, thus depriving her/his services to patients in other hospitals.

How tele echo reporting software works

- The patient shall visit the nearest hospital/clinic/diagnostic-center having an ultrasound machine. The images / Videos of the heart as per the set protocol has to be taken.
- These images / videos shall be transferred to our portal. The doctor to whom the case is assigned shall get the alert about the new case. The assigned doctor shall log into the system , analyse the images, videos and the measurement file and give his observations, impressions and the diagnosis and prepare the report.
- On submission of the report by the reporting doctor the sender (hospital /clinic/ diagnostic-center) shall get the notification. The hospital/clinic/diagnosticcenter shall print the report and give to the patient.
- The turn over time shall be less than the hour.
- The report can also be directly emailed or whatsapp on phone numbers provided by the patient. The hospital/clinic/diagnostic-center can assign the case to any doctor in the world.

Pictorial Diagram

The reports are printed on the letter heads or the layout provided by the clinic / hospital.



Features of Tele-Echo reporting software

- Reporting by doctors on fly through e-devices on 24 X 7 basis
- Ability to transfer the cases from one doctor to another doctor based on the requirements.
- Provision to see the slide show of all the images / videos of the patient to the doctor
- Reports in various formats as desired by the clinic / hospital Provision to add as many observations by the examining doctor ddisplay of various measurements taken at the clinic
- Provision to capture the image / video screens as and when required
- Storage of data for future for analysis and comparison patient
- On the Spot refereeing of critical images for expert opinion if required
- Ability to prepare check and finalise the echo report before final submission Option for emailing and WhatsApp the report
- Option for printing of critical images, measurements, observations, special findings, heart diagrams in the report and LV motion diagram.
- Dashboards for clinic for viewing the status of various cases Dashboards for doctors for viewing the status of various cases
- Provision for detailing in detail various observations
- Option for insertion of comments by the doctor in the images /videos

- Ability to change the report format as per the requirements of the doctors and the clinic
- Ability to play the video in various frames per second
- Provision for taking additional measurements for the doctors on the images / video

Components Of Tele-Echo Reporting software

Clinic Side

- Upload echo images from ultrasound machine to a computer system and assign the cases to the doctors for the examination
- Printing of the report for submission to the patients

Doctor side

- Examine and study the echo images and the videos, study the measurements
- Preparation of the echo report
- Submission of the echo report to the clinic
- Provide medical advice wherever necessary

Requirements for Tele-Echo

- An ultrasound with the provision to export the images / videos
- Laptop / e device for porting the images over Internet
- Internet connection

How It Works

Reporting software is free of charge to the clinics and the reporting doctor

• All the necessary installation and configuration shall be done by us at no extra cost with the help of the clinic staff. The online training also shall be provided at no cost.

- Charges shall be based on SaaS model (as per usage)
- We assure our best of services for the benefit of the society.

Benefits

- The doctor who is having an ultrasound machine but is not the cardiologist (eg gynaecologist)
- A cardiologist who visits more than one hospital / clinic to carry out the echo examination and is unable to provide his services for more hospitals
- Any remote diagnostic clinic who does not have expertise to examine the echo.
- Any hospital which has an ultrasound machine but there is no specialist cardiologist to conduct echo or to examine the echo images.
- A patient who desires to take the second opinion on his already conducted echo study.
- The patient can take the opinion of the expert cardiologist all over the world without travelling even though the echo examination is done at the remote place.

Advantages to the Patient

- The patient can get the analysis of the images / videos from the expert doctor of his choice
- This system shall assist any patient to take the second opinion on his case
- This system can be implemented by any diagnostic center having ultrasound and do not have any expert cardiologist.
- As the report and the images are stored on the portal, the patient can get the copy of the report at any point of time.
- This system shall increase the service level provided by clinic / hospital
- The images / videos can be provided to the patient for his records

Please call us or whatsapp us on

9673864601

Email: manager@kalpak.online or

usn123naik@gmail.com

 Name :
 Date of Birth : 07/05/1955

 Gender : Male
 Date of Birth : 07/05/1955

 Height : 1.63 cm(s)
 BSA : 1.66

 Weight : 61.0 Kg(s)
 BMI : 22.96

 Date of Echo : 28/03/2024 12:33:30 PM
 Reason for Echo : Routine checkup

 Clinic Observations :
 Clinic Observations :

Case ID :

Age : 68 Year(s), 10 Month(s), 21 Day(s) BP : 120/80 mmHg Date of Report : 18/04/2024 Referred By : None Examined By :

Echocardiography Report

Echocardiographic study was done by using:

- 1. M Mode Echocardiography
- 2. Two Dimensional Echocardiography
- 3. Conventional and Colour Doppler Echocardiography
- 4. Tissue Doppler
- 5. Speckle Tracking and Strain Imaging

Echo Window: Good

Following observations were obtained

Valves	
Mitral valve	: Regurgitation Severity : Mild
Aortic valve	: Aortic Sclerosis Severity : Trivial Aortic Regurgitation Severity : Trace (Trivial) Aortic Annulus Calcified : Trace
Pulmonary valve	Normal in size and contractility
Tricuspid valve	: Normal in size and contractility
Chambers	
Left atrium	: Normal in structure and opens and closes normally
Left ventricle	: Diastolic Filling Pattern : Impaired relaxation
Right atrium	: Normal in structure and opens and closes normally
Right ventricle	: Normal in structure and opens and closes normally
Artery Relation	
Aorta	: Aorta Dilatation : Ascending aorta
Pulmonary Artery	: Normal in size and structure

Voin Polation		
IVC	:	Normal in size and contractility
Pulmonary Vein	:	Normal in size and contractility
Regional Wall Motion		
Anterior wall	:	Contracts well
Posterior wall	:	Contracts well
Inferior wall	:	Hypokinetic
Lateral wall	:	Contracts well
Anterior septum	:	Contracts well
Inferior septum	:	Contracts well
Apex	:	Contracts well
Ventricular Function		
Left Ventricular Function	:	Grade I Diastolic Dysfunction
Right Ventricular Function	:	Normal
Pericardium		
Pericardium	:	Normal
Pericardial Effusion	:	Nil
Intracardiac		
Intracardiac Clots	:	Nil
Intracardiac Tumour	:	Nil
Interatrial Septum		Normal
Interventricular Septum	3	Normal
Ejection Fraction		*
Value Of EF		56.00 %
Average peak systolic strain is	:	-20.70 %
Reduced peak systolic strain over	:	basal anterior segment basal inferior segment basal septal segment basal anterior septal segment
		Special Observation
Nil		
		Impressions
		Dogo 2
		Fage 2

Normal RV Function Normal PA pressures No vegetation No pericardial effusion noted No Intracardiac clots seen Normal resting left ventricular systolic function with Ejection Fraction 56%

Grade I diastolic dysfunction Trivial aortic regurgitation Calcification of aortic Annulus Sclerotic aortic valve Mild mitral regurgitation Dilatation of ascending aorta

Conclusions

Ischaemic changes Degenerative changes

Doctor's Comments / Advice

Medical Line of Management

Doctor's Signature

Name : Case ID : 3603 Date of Birth : 07/05/1955 Gender : Male **Age :** 68 Year(s), 10 Month(s), 21 Day(s) **Height :** 1.63 cm(s) **BSA**: 1.66 **BP**: 120/80 mmHg **Weight :** 61.0 Kg(s) **BMI :** 22.96 Date of Report : 18/04/2024 Date of Echo: 28/03/2024 12:33:30 PM Referred By : None Reason for Echo: Routine checkup **Examined By : Clinic Observations :** LV Wall Motion Analysis 1. Basal anteroseptal segment : Normal 10. Middle Posterior segment : Normal 2. Basal anterior segment : Normal 11. Middle inferior segment : Hypokinet 3. Basal anterolateral segment : Normal 12. Middle infero septal segment : Norma 4. Basal posterolateral segment : Normal 13. Apical anterior segment : Normal 14. Apical anterolateral segment 5. Basal inferior segment : Hypokinetic lormal 6. Basal infero septal segment 15. Apical inferior segment : Normal No 7. Middle antero septal segment Normal 16. Apical anterior septal segment : : Norma 17. Apical cap 8. Middle anterior segment Normal nal 9. Middle anterolateral segment : Normal LV WALL MOTION DIAGRAM Hypokinetic Akinetic Dyskinetic Norma Aneurysm Not Seen

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Critical Image





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Measurements

Left Ventricle

Measurement	Measured Value	Extra Detail(s)
Aortic Valve Closure	381 ms	Measurement Method : AFI
		Selection Status : Most recent value chosen
		Image Mode : 2D mode
Aortic Valve Closure	381 ms	Measurement Method : AFI
		Image Mode : 2D mode
Left Ventricular Ejection Fraction	55.83055548 %	Measurement Method : Method of Disks, Single Plane
		Derivation : Mean
		Selection Status : Mean value chosen
		Image Mode : 2D mode
		Image View : Apical four chamber
Left Ventricular Ejection Fraction	55.83055548 %	Measurement Method : Method of Disks, Single Plane
		Image Mode : 2D mode
		Image View : Apical four chamber
Left Ventricular End Diastolic	105.444 ml	Measurement Method : Method of Disks, Single Plane
Volume		Derivation : Mean
		Selection Status : Mean value chosen
		Image Mode : 2D mode
		Image View : Apical four chamber
Left Ventricular End Diastolic	105.444 ml	Measurement Method : Method of Disks, Single Plane
Volume		Image Mode : 2D mode
		Image View : Apical four chamber
Left Ventricular End Systolic Volume	46.574 ml	Measurement Method : Method of Disks, Single Plane
		Derivation : Mean
		Selection Status : Mean value chosen
	r	Image Mode : 2D mode
		Image View : Apical four chamber
Left Ventricular End Systolic Volume	46.574 ml	Measurement Method : Method of Disks, Single Plane
		Image Mode : 2D mode
		Image View : Apical four chamber
Left Ventricular Major Axis Diastolic	7.43727018 cm	Derivation : Mean
Dimension,		Selection Status : Mean value chosen
4-chamber view		Image Mode : 2D mode
Left Ventricular Major Axis Diastolic	7.43727018 cm	Image Mode : 2D mode
Dimension,		
4-chamber view		
Left Ventricular Major Axis Systolic	6.68812355 cm	Derivation : Mean
Dimension,		Selection Status : Mean value chosen
4-chamber view		Image Mode : 2D mode
Left Ventricular Major Axis Systolic	6.68812355 cm	Image Mode : 2D mode
Dimension,		
4-chamber view		

Measurement	Measured Value	Extra Detail(s)
Stroke Volume	58.87 ml	Measurement Method : Method of Disks, Single Plane
		Derivation : Mean
		Selection Status : Mean value chosen
		Finding Site : Left Ventricle
		Image Mode : 2D mode
		Image View : Apical four chamber
Stroke Volume	58.87 ml	Measurement Method : Method of Disks, Single Plane
		Finding Site : Left Ventricle
		Image Mode : 2D mode
		Image View : Apical four chamber

Aortic Valve

Measurement	Measured Value	Extra Detail(s)
Peak Gradient	5.6711298776	Derivation : Mean
	mm[Hg]	Selection Status : Mean value chosen
		Direction of Flow : Antegrade Flow
		Image Mode : Doppler Pulsed
Peak Gradient	5.6711298776	Direction of Flow : Antegrade Flow
	mm[Hg]	Image Mode : Doppler Pulsed
Peak Velocity	1.1907067101 m/s	Derivation : Mean
		Selection Status : Mean value chosen
		Direction of Flow : Antegrade Flow
		Image Mode : Doppler Pulsed
Peak Velocity	-1.1907067101 m/s	Direction of Flow : Antegrade Flow
		Image Mode : Doppler Pulsed
Mitral Valvo	•	

Mitral Valve

Measurement	Measured Value	Extra Detail(s)
Mitral Valve A-Wave Peak Velocity	0.6126064784 m/s	Derivation : Mean
		Selection Status : Mean value chosen
		Image Mode : Doppler Pulsed
Mitral Valve A-Wave Peak Velocity	0.6126064784 m/s	Image Mode : Doppler Pulsed
Deceleration Slope	3.7508001826 m/s ²	Derivation : Mean
		Selection Status : Mean value chosen
	· ·	Direction of Flow : Antegrade Flow
		Image Mode : Doppler Pulsed
Deceleration Slope	3.7508001826 m/s ²	Direction of Flow : Antegrade Flow
	Y	Image Mode : Doppler Pulsed
Deceleration Time	232.8045691 ms	Derivation : Mean
		Selection Status : Mean value chosen
		Direction of Flow : Antegrade Flow
		Image Mode : Doppler Pulsed
Deceleration Time	232.8045691 ms	Direction of Flow : Antegrade Flow
		Image Mode : Doppler Pulsed
Mitral Valve E-Wave Peak Velocity	0.8732034203 m/s	Derivation : Mean
		Selection Status : Mean value chosen
		Image Mode : Doppler Pulsed
Mitral Valve E-Wave Peak Velocity	0.8732034203 m/s	Image Mode : Doppler Pulsed
Mitral Valve E to A Ratio	1.425390444	Derivation : Mean
		Selection Status : Mean value chosen
		Image Mode : Doppler Pulsed
Mitral Valve E to A Ratio	1.425390444	Image Mode : Doppler Pulsed
E Velocity to Annulus E Velocity	18.093091818	Derivation : Mean
Ratio		Selection Status : Mean value chosen
		Image Mode : Doppler Pulsed

Measurement	Measured Value	Extra Detail(s)
E Velocity to Annulus E Velocity	-18.093091818	Image Mode : Doppler Pulsed
Ratio		
Peak Tissue Velocity	0.0482617028 m/s	Derivation : Mean
		Selection Status : Mean value chosen
		Finding Site : Mitral Annulus
		Cardiac Cycle Point : Early Diastole
		Image Mode : Doppler Pulsed
Peak Tissue Velocity	-0.0482617028 m/s	Finding Site : Mitral Annulus
		Cardiac Cycle Point : Early Diastole
		Image Mode : Doppler Pulsed