Use of technology in a hospital radiology department essay sample

Health & Medicine, Hospital

University College London Hospital (UCLH) is a teaching hospital in London, part of the University College London Hospital NHS Foundation Trust. It was founded in 1834, eight years after UCL (then known as the University College London as the North London Hospital in order to provide clinical training for the medical doctors.

UCLH was officially opened in October 2005. It is the biggest and most ambitious hospital building project in the history of the NHS. UCLH provides many services. This includes: Accident and Emergency, clinic for cardiology outpatients, cancer care, critical care, endocrinology, general surgery, Ophthalmology, Dermatology, General medicine, Gynaecology, Rheumatology, Orthopaedics, Paediatrics and Urology. [1]

This project mainly focuses on what they offer in the radiology department. The department of imaging is one of the best equipped in the UK and provides a very full range of diagnostic and interventional services which include: X ray, Computer Tomography(CT), Magnetic Resonance Imaging(MRI), Ultrasound (US), Intervention radiology, Fluoroscopy and plain film X ray.

UCLH provides a comprehensive clinical service, offering a full range of procedures to both the trust and other hospitals throughout the UK. 12, 000 patient studies are performed per year, using the UK’s first Positron Emission Tomography (PET), computerised tomography (CT) scanner, SPET/CT, five further SPET gamma cameras, and a bone densitometry scanner. The department also performs a range of routine tests and radionuclide therapy procedures on in-patients and out-patients using new superb facilities. The

latest imaging technology is available in the department, some of which is exclusive to the UK.[2]

The below picture show us how the CT scan looks and how it works.

Figure 1 CT scan[3]

A CT scanner uses X ray, it is painless, and the machine takes a lot of picture of your body from different angles, these pictures are fed into a computer, and then the computer put them together to give a series of cross section or slices. Together these cross section give a very accurate picture of where the infected part of the body and how big it is.

PET scan, this is different from CT scan developed in the 1970s. It can show how the body tissues are working, as well as what they look like, PET scanner are very expensive and only a few hospital in the UK have one. A PET scan can help to show up cancer, stage a cancer and decide the best treatment for your cancer

The radiology department, also known as the x-ray or imaging department, which carries out the radiology examination of patients using a range of X-ray equipment, together with computer tomography, in this department there are radiologists which are a doctors specially trained to interpret the results and carry out some of the more complex examination, they are supported by radiographers who are highly trained to carry out many of the x ray and other imaging procedures. [4]

Task 1 B

UCLH offers patient pioneering treatment at radiology department using the latest technology. The new 64 slice CT scanners indicate many patients who have problem with their veins and arteries can be diagnosed swiftly and accurately as outpatient, the scanners provide the doctor with a clear and detailed picture of veins and arteries using 3D rotation, this department treat solid cancer such as lung, liver or bone tumours by radiofrequency coagulation destroying the cancer tissue by local heating. Also using real time X-ray guidance, a catheter- a long thin plastic tube is inserted into an artery and guided around the body into main blood vessel supplying a cancer so the chemotherapy drugs can be delivered directly into a tumour. It’s more efficient and highly accurate. This department has multi disciplinary team that treat many different types of common and rear cancer including head and neck cancer, gynaecology oncology, bone and soft tissue sarcomas. Surgeons are conducting techniques which could revaluations the lives of man how undergoing treatment for prostate cancer, a probe inserted in the back passage, emit sound wave to destroy cancerous tissue, the research group are hoping this will reduce side effect, such as impotence and incontinence.

A large number of cancer patient are being treated as day cases, the number has been increased by 10 per cent in the past year. According to annual review of the hospital barest cancer treatment has improved patient chance of recovery, nearly 150 patient have already benefited from the approach, intra operative radiotherapy, which delivers radiation therapy to the exact site during surgery.

The department offer service to all age group and ethic group according to the service they require. The service they give during examination have advantage and disadvantage, for instance if we take PET scan it is very safe for the patient, they do have a radioactive injection but this is a small amount and it goes away fast very quickly, some doctor tell PET scan patients that they should not have close contact with pregnant women, babies and young children for a few hours after their scan. This is because the radiation is still in the body. The advantage is that the professional or specialist can be able to identify the illness or disease and therefore patients can receive treatment that they need. Therefore there are proven benefits in administering diagnostic radiography due to the grate amount of detail that can be gather using these techniques.[5]

Task 2 A workplace practices

o X ray

o MRI scan

o SPET gamma camera

(2) X ray is a type of electromagnetic radiation with wavelengths of around 10-10. Produced by exposure of radiation generally recorded on a sensitive photographic film, for example with a chest X- ray normal lungs being full of air, show up on the photos as being black. Any problem with the lungs generally results in an area of reduced blackness or increased whiteness.

These days not all X- ray images will actually be recorded on film, but may be kept in digital form and shown on a computer screen.

When the patients arrive first has to report to the reception in the radiology department. Once they have checked in, they will be shown where they will be collected by the radiographer, and the radiographer will explain the procedure for the examination, and show them a private cubical where they may remove the dress, then they will be asked to put on the surgical gown provided. However if they want they may bring their own gown, and then they will be taken into the X-ray room where they will stand against a frame or flat panel detector machine and the radiographer will stand in front of the computer to take accurate photo, they will be seen and heard at all the time take a deep breath in and hold it for a few seconds. During the examination there might be a slight noise as the machine start working running, but there will be unaware of the fraction of a second when the X-ray source is active.

The process of taking the photo will last only a few minutes, but the radiographer may need to take further X-ray a different exposures or different positions. This usually takes no more then 5- 10 minutes.

However there are risks involved with X-ray, but a plain x -ray uses such a small amount of radiation, equivalent to that which we all receive from the atmosphere over a period of 2 or 3 days, Which the risk is very small.

Finally the film will be carried by a radiographer, but the film will be examined and reported on later by the radiologist. Shortly after the visit a report on the finding written will send to the doctor, this make take some

time to reach the referring doctor, but is normally available in less than 14 days. [7]

(3)

MRI (Magnetic Resonance Imaging) is the name given to a technique which builds up pictures of an internal cross section of the part of the body under investigation. The large machine contains a tunnel about 4 feet long, thorough which a patient lying on the attached couch can pass. It use a magnetic filed and radio waves together with an advanced computer system to build up a series of image, each one showing a thin slice of the area being examined. These image are very detailed and can show both bones and soft tissues in the body and can therefore give a great deal of information. such as every single infected part of the bone and tissues.

MRI this is an extremely safe procedure. It does not involve the use of x-ray or any radiation. The patient placed in a very powerful magnetic filed and consequently if the patient have any small pieces of metal inside the body they have to inform the radiographer as in same cases you may not be able to have the examination.

For female patient who are or might be pregnant you must make sure the doctor referring you or a member of staff in the radiology department knows as soon as possible in advance. MRI scans may not be advisable in early pregnancy unless there are special circumstances, because there is a small theoretical risk to the foetus in the first 12 weeks of pregnancy and therefore scans are not performed on pregnant women during this time.

When you arrive at the department you have to go to the reception desk in the part radiology department, after which you will be shown where to wait until collected by a radiographer other member of staff and then you may be asked to fill in a questionnaire about your health and medical history, and to sign a consent form. Shortly after this process you will be shown a private cubicle where you may be asked to take off your outer piece of clothing and remove jewellery (except your wedding ring) then you may be asked to put on the surgical gown and dressing gown provided,

Then you will be cared for by small team including a radiographer who will perform the examination and the radiologist who will look the result on the computer screen as it is happening. Ones you get into the special room and made comfortable lying on the couch, then you may be given a contrast medium which helps to produce a more detailed image. The contrast medium would be injected into a vein in your arm, which occasionally causes a warm feeling for a short while. During the scan you will find the machine very noisy and you will probably be given ear plugs or earphones.

After the radiologist/ radiographer is satisfied with the scan of each section you will be inform when a new scan is starting. After the scan is done you may put on any clothes that you have taken off. The process of taking the images on the screen usually takes about 20-30 minutes and unless you are delayed by such as emergency patients, you total time in the department is likely to be about 45 minutes. After the scan, the images will be examined further by the radiologist who will prepare a report on his or her finding. This

may take some time to reach your referring doctor; it is normally less than 14 days. [8]

The below annotated diagram of MRI scan shows how the patient monitor during the

Examination

Figure 2 annotated diagram of MRI [9]

(4) Single photon emission computer tomography (SPET) gamma camera

Gamma camera allows us to Visualize function information about a patient organ or body system. Gamma camera works internal radiation is administered by means of a pharmaceutical which is labelled with a radioactive isotope, this so called radiopharmaceutical, or tracer, is either injected, ingested, or inhaled, the radioactive isotope decays resulting in the emission of gamma rays. This gamma ray gives us a picture of what’s happening inside the patient’s body.

However the components making up the gamma camera are the collimator, detector crystal, photomultiplier tube, position logic circuits and the data analysis computer. The purpose of each is briefly described below.

Camera collimator, this is the first place that an emitted gamma photos encounters after exiting the body. The collimator is a pattern of holes through gamma ray absorbing material, usually lead or tungsten that allows the projection of the gamma ray image onto the detector crystal.

Scintillation detector, used in order to detect the gamma photon, a gamma ray photon interacts with the detector by means of the photoelectric, this interaction causes the release of electron which in turn interact with the crystal lattice to produce light, in a process known as scintillation.

Photomultiplier tube, this receives only a very small amount of light given from the scintillation detector. Therefore at the base of the photomultiplier tube is anodes which attracts the final large cluster of electron and convert them into an electrical pulse.

Position logic, these circuits immediately follow the photomultiplier tube array and they receive the electrical impulse from the tube. This allows the position circuits to determine where each scintillation event occurred in the detector crystal.

Data analysis computer, finally in order to deal with the incoming projection data and to process the image of the 3D, a processing computer is used [10]

Figure 3

Task 2

Geiger counter experiment

Aim

The purpose of this experiment is to demonstrate the most penetrative particles, alpha, beta and gamma radiation with different mater

Plane

Equipment used during the practical (P2)

To start the scientific investigation it is important to collect the below equipment.

support Stand

Aluminium

Lead

Gamma

Alpha

Beta

Geiger counter

Wood

Measuring Ruler

Source holder

Method

o To start the investigation, first set up the equipment on the front bench, where every student can see.

o Then open the Geiger counter for ten minute to see the background radiation. A Geiger counter is a type of particle detector that measures ionizing radiation.

o Record the background radiation for one minute

o After recording the background radiation, take out gamma ray from strong wood container, for safety reason hand has to be 10 centimetre away from the source to avoid radiation getting to your body, and drag the radiation source in front of the Geiger counter and record the figure. This has to be done with out using absorber. Which are aluminium, paper and lead.

o Place the gamma ray in to the box and put 30 cm aluminium between the counter and radiation source using stand. This time the figure has to be less from the first one because of aluminium absorber.

o And then using the 30 cm lead between the source and the counter record the result, this time the figure has to be more less. Using the same method but different absorber the same investigation done for alpha and beta to measure the thickens of the radiation.

M2

The scientific principle of the above investigation is to know how radiation can be absorbed by different substances and penetrating properties. For example alpha radiation travels only a few centimetres in air, beta radiation travels tens of centimetres in air and gamma radiation travels many meters.

All types of radiation become less intense the further the distance from the radioactive material, as the particles or rays become more spread out.

The ticker the substance the more the radiation is absorbed, therefore the above three types of radiation penetrate materials in deferent ways.

Alpha radiation

o Alpha radiation is the least penetrating. It can be stopped (or absorbed) by just a sheet of paper

Beta radiation

o Beta radiation can penetrate air and paper. It can be stopped by a thin sheet of aluminium

Gamma radiation

o Gamma radiation is the most penetrating. Even small levels can penetrate air. Paper or thin metal. High level can only be stopped by many centimetre of lead or many metres of concrete. [11]

The below picture shows us how this radioactive source absorb by different martial

Figure 4 [12]

The degree to which each different type of radiation is most dangerous to the body depend on whether the source is outside or inside the body. If the radioactive source is inside the body maybe after being swallowed or

breathed it could be dangerous. For instance alpha radiation is the most dangerous because it is easily absorbed by cells, whereas beta and gamma radiation are not as dangerous because they are less likely to be absorbed by a cell and just pass through it.

(2) The below table shows the result obtained from the investigation

Gamma source

Absorber

Thickness of absorber

Counted per minute

With out absorber

No

450

Aluminium

30 mm

165

Led

30 mm

150

Alpha source

Absorber

Thickness of absorber

Counted per minute

With out absorber

No

240

Paper

2mm

146

Lead

30mm

3

Beta particle

Absorber

Thickness of absorber

Counted per minute

With out absorber

No

5000

Aluminium

0. 3mm

1832

Aluminium

1mm

760

Aluminium

1. 6mm

12

The result of the above investigation shows how the radioactive source measured and absorbed by different material. Gamma and beta particle have high penetration power and can easily pass through out material such as lead and aluminium, these shows us beta and gamma ray is less ionising. This means it has less effect damaging the cell. Whereas alpha partial can easily stop by 2mm paper, this indicates how alpha source is dangerous to the body.

In hospital doctors they use radioactive chemical called tracers for medical imaging, radiation detectors placed outside the body detect the radiation emitted and with the aid of computers, build up an image of the inside of the body. Emitters of beta or gamma radiation are used in hospital because these types of radiation readily pass out the body, and they are less likely to be absorbed by cells than alpha radiation.

Figure 5 Gamma source

Figure 6 Alpha source

Figure 7 Beta particle

Conclusions

Form the above experiment I have done I mange to understand how radiation can be used in medical field and how radiation can be dangerous for living cells. When radiation collides with molecules in living cells it can damage them, if the DNA in the nucleus of a cell is damaged the cell may become cancerous.

Alpha, beta and gamma radiation this three particles have different type of radiation; alpha radiation is the most dangerous because it is easily absorbed by cell. Beta and gamma radiation are not as dangerous because they are less likely to be absorbed by cell and usually just pass right through it. However if the radioactive source is out side the body alpha radiation is not as dangerous because it is unlikely to reach living cells inside the body.

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Task 3 (P3) (1)

The below information provide the structure and operation of the UCLH hospital.[12]

(2) Function of each department

o Accident and emergency department (A&E) :- the A&E department sees approximately 80, 000 patient a year, the department divided into 4 areas;

Resuscitation; Major; Minor; Paediatrics. Also there are 1 recovery for children with cardiac and invasive monitoring facilities. The director name for this department is Dr paul Glynne

o Cardiothoracic Surgery department;- this department have world class specialist surgical service for all cardiac and thoracic condition. The department has four cardiac theatres and facilities including 90 cardiac beds, with keen cardiac intensive care and high dependency bed. The department is the main treatment centre in north London.

o Gastroenterology department;- this department provides an extensive range of advanced diagnostic and therapeutic services such as pancereatico-biliary medicine, hepatology, inflammatory bowel disease and nutrition.

o Respiratory medicine;- this department offer a full inpatient and outpatient medical service for adults with condition affecting the respiratory tract, including asthma, chronic obstructive pulmonary disease, lung cancer, respiratory infection and bronchiectasis.

o General surgery:- the general surgery department consists of twelve specialist consultant surgeons, and offers both a local and national service for general and specialist referrals. Areas of expertise can be grouped into four main subspecialties, this include colorectal, hepatopancreto surgical unit, plastic surgery, surgical oncology unit, upper gastro intestinal surgery and vascular

o Imaging department;- the department of imaging is one of the best equipped in the UK and provide a very comprehensive range of diagnostic and interventional services which include. X ray, MRI, Ultrasound, fluoroscopy and plain film X ray.[13]

(3) Main person in radiology department

Service manager, imaging consultants, coordinator radiographer, radiographer

o Service Manager, is the person who control the operation of the service, and responsible for making things happen in order to meet the aim of the hospital

o Imaging consultants: – in the radiology department there are many consultants and all of them have their role. Generally they help patient to achieve goals by giving advice and designing program. Also film reporting service for the hospital as well as lecturing to postgraduates from UCL.

o Coordinator radiographer: – who provide training service for undergraduate student and maintaining day to day activity throughout the department.

o Radiographers: – who provide anatomical structures on an image using sophisticated advance equipment, this is vital member of the department and it is highly skilled professional.

o Receptionist: – in the radiology department there are receptionist how are responsible for answering telephone, arranging patient appointment and calling patient from the waiting room when it is their turn to be seen. [14]

M3

In UCHL hospital productive department contribute the service directly to the aim of the organization, which is doctors, specialist and consultant they gave the service according to the aim of the hospital. The hospital have different department and on those department they have highly specialist such as doctors, nurses and consultant which they gave the service to patient according to the aim of the hospital. Supportive department are receptionist, cleaners, catering who also provide services to client indirectly which means for example cleaners may not have to have direct contact with client when providing services but they are involve in clients care by maintaining all the hospital words clean and free from any kind of infection.

Receptionist this are who deal with client by giving information and directing client to get to the right department also assist people by arranging appointment for the next visiting to the hospital, register new client and put their detail in the hospital administration system confidentially, and welcoming people with grate altitude.

Catering service they provide a range of menus suitable for children, renal patient, religious and ethnic preference as many clients are from different cloture.

Security control on entry and access to the ward they have a duty to monitor movement with the hospital through a network CCTV camera to spot and remove intruders.[15]

2 the relationships between the productive section and support section of the organisation.

Productive department

Supportive department

Radiologists

Hospital receptionist

Radiographer

Maintenances staff

Consultants

Cleaners

Porters

The relationships between radiology, radiographer and receptionist are that the receptionist schedules the appointment for the patient, ensuring the patient in the right place and answering telephone. If the receptionist was not present then patient would walk in at any time and the department would be unorganized.

Radiology department, cleaners and porters’ relationship, radiology department is responsible for helping patient and identifying internal organ. The cleaners support the whole department by cleaning and meet hygiene standards. If the cleaners do not clean the ward and the department it result bacteria and other diseases to the whole hospital could finally cause big health problem.

Maintenances staffs, these people are responsible for all the equipment used in the department, ensuring all equipment is safe before they operate to the patient along with radiographer. Porter are supportive staff that helps the maintenance staff they are responsible bringing safe equipment to the maintenance staff and taking broken or unsafe equipment to be fixed.

Task 4 (P4)

Employment protection

1) As statutory organisation UCLH have employment protection, according to the HSWA employees has the right to get holiday entitlement, to receive minimum standard paid, including entitlement to sick pay, to be treated equally, fairly with respect. [16]

Health and safety

2) The main reason for the principle of the health and safety legislation is to protect client, workers and other visitors form potential risk.

UCLH hospital has stated different policies for different hazards.

Manual handling

==> The manual handling polices is issued to prevent manual handling injuries as the work place involving manual handling and the hospital uses the manual handling regulation when there is manual handling work required and it is important to use appropriate equipment when lifting and moving individuals.

Infection control polices is applied

==> The hospital has proper procedure that can minimise infection getting to the worker, visitors and patients. Infection can be control by following correct and safe procedures when dealing with body fluid and body wastes

==> Wearing gloves and plastic apron when dealing with body fluid and body wastes e. g. blood, urine

==> Disposing all body wastes safely in the correct place

==> Providing different infection bag for infection and none infection wastes

Control of substance Hazardous to Health (COSHH)

==> The COSHH regulation is issued to shows how chemical and hazardous substance should be dealt with in the work place, this include cleaning material, corrosive substance, disinfectant, drug etc.

==> in UCLH there is policy and procedures provide for carer to follow when dealing with chemical and hazardous substance, they have provide separate

room in each department to store all cleaning materials and disinfectants and they wear gloves when dealing with chemical.

Management of health and safety at work regulation

==> The policy has been developed to ensure that every employers are making sufficient and suitable risk assessment to the health and safety of their employees, patients and other visitors. Ones the assessment has been done controlling measures needs to be taken to reduce the risk. Under the health and safety policy it is the trust responsibility to take all reasonable actions to ensure the health and safety at work places. Therefore UCLH have provide the following factors; providing and maintaining safe equipment, risk assessments and providing relevant information, instruction and appropriate supervision in relation to the trust activity, also the trust has policy that applied to all employee, employer, patient and visitors on reporting dangers situation as soon as possible, following procedures on working during any activity, working according to instruction and training they have been given. [17]

3) As an employee there are many responsibilities that protect the aim of the organisation, support rules of the business, stick to contract terms and support health and safety procedures of your organisation. Employers also have many duties that can protect the employee from been unlawful discrimination against different ethnic groups, observe employment legislations, duty of care to employees, observe employees contracts, provide safe and healthy workplace, giving appropriate training and provide

disciplinary procedures. UCLH follows all the HSWA to minimise all unnecessary thing that can harm employee filing and future. [18]

4) The company is responsibility to follow with the NHS quality system, which makes sure that all work carried, has to meet the criteria. The following quality systems are applied in UCLH hospital.

o Eliminate unlawful discrimination

o Promote race equality

o Promote good race relation between people of different racial groups [19]

5) UCLH is one of the biggest NHS foundation trust in UK by delivering outstanding service to all local and national patients, the hospital has proper SOP that instruct all employees to complete the job safely, with no bad impact on the environment and which meets regulatory standard. Therefore the trust has SOP in the following area, consent for participation in a clinical trial, end of trial notification, definition and division of responsibilities in clinical trials, recording and reporting protocol violations, and recording, management and reporting of adverse events.[20]

M4

1) If employer did not meet the criteria with the HSWA they may receive later from the environment health officers, which is local authority and the local authority invite the health and safety executive inspectors, who have the right to enter any workplace without giving notice to look at the work

activities and to check that the company are complying with health and safety law. Then the inspector may offer guidance or advice to help you maintaining your workplace properly. The inspector will decide what action to take; the action will depend on the nature of the breach and will be based on the principle set out in the health and safety commission (HSC) enforcement policy statement.[21]

Steps of discipline

Informal

The inspector may tell the duty holder for example employer or contractor, what to do to comply with the law and explain way

Improvement notice

Where the braking of the HSWA law is more serious, the inspector may issue an improvement notice to tell the duty holder to do something to comply with the law. The notice will say what needs to be done, why and by when.

Prohibition notice

Where an activity involves or will involve a risk of serious personal injury, the inspector may serve a prohibition notice that stop the activity immediately or after a specified time period.

Prosecution

In some case the inspector may consider that the prohibition notice still does not fix the problem and failure will lead to prosecution. [21]

2) If an employee did not comply with HAWA or lead failure to the standard service of the hospital the first discipline will receive is pre disciplinary counselling, Pre disciplinary counselling is a corrective discussion between the employee and the supervisor regarding the employee's failure to meet performance standard, service standard and expectations. During this discussion they will identify the cause of the problem and discuss how the employee can improve that failure.

Written reprimand

A written reprimand is a written notice to an employee regarding the employee's failure to meet performance standards, service standards and expectation. [22]

3) If employer did not comply with the quality system of the hospital they may receive letter from the NHS trust foundation that can explain, how they can improve the service standard quality. In few months later they will have dissection with a person how represent NHS foundation trust about the frailer of the quality of the service and what the employer can do to minimise the frailer on the service. Having discuses the issue with the employer to improve the service if the service is in the same position this can lead dismissal to the employer. [23]

4) If employee did not comply with the quality system of the hospital the first step of disciplinary will receive verbal reprimand from his/ her supervisor to stop the behaviour or improve the performance. Second step is written later to the employee asking the employee to stop the behaviour or improve his or her performance, this time the supervisor will be clear about what behaviour or performance is expected. The third step is suspended for up to three day the employee will receive written later the reason for the suspension. The fourth and final step is dismissal later which explains every thing why this decision has been made. [24]

5) In any types of organisation SOP are important and all employers are responsibility to teach the employee at the beginning of their job and then employee are responsible to follow the procedure. For instance if employee did not turn up on time or did not follow the produced of the work that will be preformed, there is discipline, discipline is intended to improvement the preformed of the work, the idea is to give the opportunity to employee to turn performance round before suspension or dismissal even mention. [25]

Task 5 A

(a)This are the three computer software used in UCLH in radiology department hospital

o Microsoft word

o Microsoft excel

o Microsoft outlook [26]

Task 5 B

Microsoft word is word processing software which used to produce newsletter, leaflet and other easy word document that can be saved and store in memory storage. This software used by radiology department to send later to out patient, regarding appointment or any medical dissection. Also Microsoft used referral later to the GP about the condition of the patient.

Microsoft excel is a spreadsheet application software, with features of calculation, graphing tools, pivot table and VBA (Visual Basic Applications) it is ideal for radiology department. They use excel to keep all the patient information and to crate graph when analysing internal organ, particularly treating out patient to show the progress of his health. This patient recording system or database is vital to the department because once the information about the patient entered no mater how many times the patient is admitted, their records can be found very quickly.

Microsoft outlook is a personal information manager and is part of Microsoft office, it is ideal for radiology department it help them to send instant messages department to department, receiving messages from all department particularly from accident and emergence , making group scheduling to the workers and contact task. [27]

Task 6 (A)

The laboratory information management system software package used in UCLH is PAS(patient administration system) [28]

Task 6 (B)

PAS is LIMS software package that is used within the all radiology department and the whole hospital, running on a PC with the windows NT, 2000, XP or server 2003 operating systems. It is the software that provides the capability for users to easily integrate process application software for laboratory analysis, resource planning, statistical control and more. Every patient that treated in UCLH hospital is on the PAS system and their details are updated every time they visit. PAS is very suitable software because it logs all the relevant information and is easily accessible whenever it is required by a number of staff at the hospital.

In addition PAS is also very flexible software which has capability of supporting two types of application OPC clients and CHIP application. The size and speed PAS provides throughout the hospital a full 10, 000 point database and the [29]

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