

Tutorial Continuing Education: Innovative Strategy in a Tertiary Specialized Health Unit

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ABSTRACT

Hospital Pelopidas Silveira-IMIP/SES/SUS is a tertiary-unit, specialized in cardiology, neurology, neurosurgery and interventional radiology. It is the only hospital of Brazilian Public-Health-System (SUS) with this profile and a 24h-acute-cardio/neurovascular facility. Challenges of Continuing-Education include a) guaranteeing appropriate level of basic knowledge, b) empowering clinical staff to remain up to date in current knowledge. HPS Continuing-Education Program is based on three branches: a) Classroom-Tutorials (CT), b) Online-Tutorials at “Pelopidas Digital” Virtual-Teaching-Platform (PD-VTP) and c) Daily-Practice Evaluation (DPE). This paper presents logistic details of HPS Continuing-Education Program. Training team coordinates tutorial meetings and performs continuous statistical analysis. Evaluation team visit hospital departments daily, observing in practice the incorporation of information provided, and retraining individuals in their work scenarios. Both teams perform curriculum development, meeting planning and creation of digital-training-modules. Tutorial meetings have pre/post-tests, allowing monitoring of attendance, topic significance and short-term retention. Tutorial groups are formed by 6-12 employees sharing similarities in training needs. CT is offered to 4 groups-of-interest: a) nurses, b) nursing assistants, c) administrative staff, porters, drivers, d) cleaning, laundry and security staff. Problematic and active strategies have resulted into an attractive, structured educational program customized to produce short-term results. The strategy is of interest to institutions sharing similar challenges.

Keywords: Continuing Education, Problem-Based Learning, Educational Models, e-Learning, Multifaceted Methods

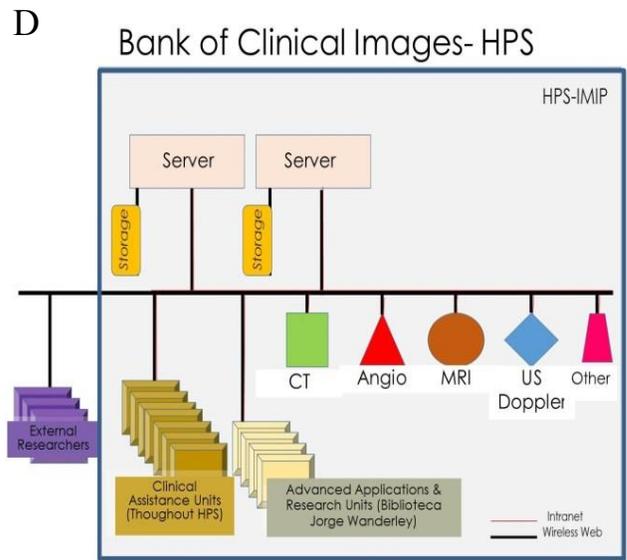
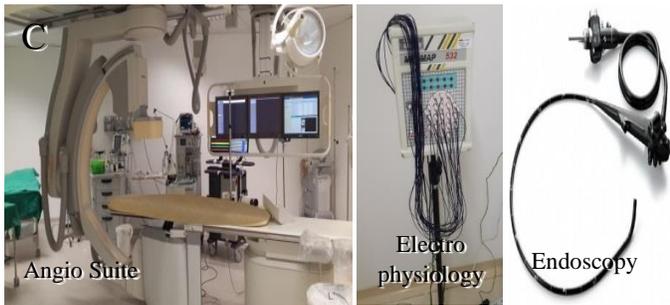
1. INTRODUCTION

Hospital Pelopidas Silveira-IMIP/SES/SUS (HPS) is a tertiary unit, specialized in cardiology, neurology, neurosurgery and interventional radiology (Fig.1). It is the only public hospital of Brazilian Public Health System (SUS) with this profile and a 24h acute cardio-neurovascular facility. In a facility like this, the challenges of Continuing Education include a) guaranteeing appropriate level of basic knowledge, b) empowering clinical staff to remain up to date in current knowledge in each area.

HPS Continuing Education (HPS-CE) Program is based on three complementary branches: a) Classroom Tutorials (CT), b) Online tutorials at “Pelopidas Digital” Virtual Teaching Platform (PD-VTP) and c) Daily Practice Evaluation (DPE).

This paper presents the logistic details of HPS Continuing Education Program.

Fig.1. A & B. HPS/IMIP/SES/SUS is a tertiary unit, specialized in cardiology, neurology, neurosurgery and interventional neuroradiology. HPS is a helipad-equipped, 200-bed facility (60: neurology, 30: cardiology, 30: neurosurgery, 30: ICU, 10: Post-Op Care, 40: ER beds). C & D. The diagnostic center performs on average 45000 exams/annually. Seven DICOM modalities are connected to HPS Bank of Clinical Images - a hybrid Picture Archiving and Communicating System (PACS-HIS-RIS) for clinical assistance and research [1]. E. HPS infrastructure. Emergency and elective neurosurgical and interventional radiology procedures are supported by a physical and personnel infrastructure including angio suite, ORs, Postop Care Unit, Blood Bank and an Instruments Processing and Sterilization Unit that handles mostly microsurgical and endoscopic neurosurgical instruments.



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F. HPS Educational infrastructure and resources. HPS offers 12 short-term Educational and Training Programs (07 Programs for undergraduates in the areas of Health Education, Journalism/Communications, Physiotherapy, Medicine, Nursing and Nutrition and 05 Programs at post-graduate level). It offers a 03-year Residency Program in Neurology. HPS has a library (BJW) housing 970 titles for consultation and 13 computer units providing internet access to major publications via Brazilian Education Ministry gateway (Portal CAPES). HPS homepage offers detailed information on educational and research opportunities and provides interface for online access to institutional publications through its virtual repository. An auditorium (70 people), a conference room (10 people) and a multipurpose training facility with capabilities for practical training and simulation (LASIM) provide for educational activities at HPS.

2. HPS TUTORIAL CONTINUING EDUCATION PROGRAM

Classroom Tutorials (CT)

Principles of problematization and tutorial teaching are used at CT (Fig. 2A-E).

Tutorial meetings are 30-minute-sessions, undertaken during participants scheduled working hours at the Institution. These sessions are held on a multipurpose room encompassing practical simulated scenarios.

Classroom tutorials have pre and post-tests, allowing monitoring of attendance, topic significance and short-term retention.

Each tutorial group is formed by 6-12 employees, no more than 1-2 from the same hospital sector, and sharing similarities in training needs.

Face-to-face sessions are undertaken to 4 groups of interest: a) nurses, b) nursing assistants, c) administrative staff, porters, drivers, d) cleaning, laundry, and security staff. Curriculum type b encompasses critical (ICU and ER) and non-critical groups. There are 96 tutorial groups (08-type a, 48-type b, 12-type c and 28-type d).

Coverage of face-to-face sessions encompass day and night personnel schedules by following a Sunday-to-Friday week schedule.

Average time for completion of training is one teaching-topic each 04 weeks, but reaches one teaching-topic per week to critical groups.

HPS-CE Training team coordinate tutorial meetings and performs continuous statistical analysis.

Daily-Practice Evaluation (DPE)

Evaluation team visits hospital departments daily, observing in practice the incorporation of information provided, and retraining individuals in their work scenarios. DPE team also coordinates all welcoming trainings for newly arrivals, designating them to an assigned tutorial group.

Training and evaluation teams perform curriculum development, meeting planning and creation of digital-training-modules and work in close communication.

From July/2014 to December/2016 HPS-CE has produced 400 written practice-instructions and coordinated over 9000 tutorial meetings.

“Pelopidas Digital” Virtual-Teaching-Platform (PD-VTP)

PD-VTP has been developed to mirror HPS-CE basic tenets as it provides short, point-of-care online tutorials on a variety of topics associated with care to the cardio-neuro patient (Fig. 3).

This electronic platform, made available to Institutional users through intra and internet (pelopidasdigital.imip.org.br) since 2015, is content-oriented according to the role the provider undertakes at the Institution and is meant to supply information for all HPS community, therefore expanding the range of coverage of CT.

Access is granted by individual username and password and the dashboard provides information on individual progress.

The basic unit of the PD-VTP is a module, formed by a) introduction, b) learning objectives, c) 05-minute tutorial video or video-text, d) test and e) recommended reading and associated PD-VTP modules.

Modules can be grouped into courses. Successful completion of the modules comprising a course fires an automatic email notification to the user and the HPS-CE team that ensures certification and creates a drive to use this tool beyond the assigned virtual training-topics for the given period.

Periodic auditing of the platform allows for individual and group follow-ups. In January 2017, 873 out of 1008 (87%) clinical and non-clinical personnel of HPS had become users of PD-VTP.

Fig.2. HPS Tutorial Continuing Education A. HPS Continuing Education (HPS-CE) Program is based on three branches: a) Classroom Tutorials (CT), b) Online tutorials at “Pelopidas Digital” Virtual Teaching Platform (PD-VTP) and c) Daily Practice Evaluation (DPE). Face-to-face sessions are undertaken to 4 groups of interest: a) nurses, b) nursing assistants, c) administrative staff, porters, drivers, d) cleaning, laundry, and security staff. There are 96 tutorial groups. Tutorial meetings are 30-min-sessions, undertaken during participants scheduled working hours at the Institution. Coverage encompasses day and night personnel by following a Sunday-to-Friday week schedule. A typical CT has pre and post-tests. This strategy provides for fast start, reducing group dispersion; optimizes time usage, allowing for automatic monitoring of attendance; values previous knowledge and measures topic significance; provides for a measurement of short-term retention, allowing for fast review of session’s main message. This session format is particularly useful to introduce theoretical topics and usually precedes practical sessions and simulations. B. Practical CT session on mechanical ventilator setup for nurses executed according to previous structured planning (Insert). Basic information is followed by further subdivision of the group and monitored hands-on. For closing, the tutorial group is gathered and reviews session’s goals. C. CTs are held on a multipurpose room encompassing practical simulated scenarios. Each tutorial group is formed by 6-12 employees, no more than 1-2 from the same hospital sector, and sharing similarities in training needs. D. DPE team follows up individuals at their work scenarios starting at their welcoming training at the Institution. DPE and CT work closely together: February/2017 DPE statistics showed a fall-out in standards for

A

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Módulos finalizados: 0/0

Média: 0,0

Total

Módulos em andamento: 0

Módulos finalizados: 18

Média: 0,0

Cursos em andamento: 0

Cursos finalizados: 0

- Empatia: Característica Básica de Profissionais da Saúde
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- Escala de Resultados de Glasgow
- Sistema Ventricular Cerebral: Anatomia Clínica e Radiológica
- Higienização Simples das Mãos
- Encaminhamento de Pacientes Neurológicos e Neurocirúrgicos
- DVE: Cuidados e Manejo Básico
- Higienização das Mãos: Quem, quando e como?
- Fricção Antisséptica das Mãos com Preparações Alcolólicas
- Preparação Pré-Operatória das Mãos
- Montagem da Caixa de Descarte de Perfurocortantes
- Norma Regulamentadora 32
- Cálculo da Validade e Identificação dos Medicamentos Multidoses
- Desinfecção de Artigos Não-críticos

B

PELÓPIDAS Digital

Missão

A plataforma Pelópidas Digital é um espaço virtual de informação, treinamento e atualização de profissionais da área de saúde. Especialmente criada para o corpo clínico do Hospital Pelópidas Sílveira – IMPVSES/SUS - Recife, essa plataforma virtual constitui uma moderna ferramenta de ensino e educação continuada.

Características

O Pelópidas Digital combina recursos da tecnologia da informação, estratégias de educação à distância via internet e métodos de ensino para adultos para oferecer informações indispensáveis aos profissionais de saúde trabalhando em unidades com perfil cardi-neuro.

Acesso

O Pelópidas Digital é acessível no ambiente intra-hospitalar HPS ou de qualquer ponto onde se encontre o usuário. Para isso basta realizar o login na plataforma através do nome de usuário e senha oferecida aos profissionais cadastrados.

Módulos

A unidade básica do sistema é o módulo de ensino. O título de cada módulo é apresentado em cor, que está associada a uma das áreas de atuação dentro do organograma institucional (veja Tabela 1 abaixo). Esse código de cores sugere a cada profissional as módulos de maior interesse dentro de sua área de atuação.

- Anestesia
- Cardiologia
- Cirurgia Cardíaca
- Cirurgia Plástica
- Clínica Médica
- Enfermagem
- Farmácia
- Fisioterapia
- Fonoaudiologia
- Geral
- Instrumentação Cirúrgica
- Medicina Intensiva
- Neurocirurgia

D

Módulo 29 - Segurança na Abordagem ao Heliponto

Informações básicas

Descrição: O uso de helicópteros para o transporte de pacientes tem sido uma alternativa para situações de emergência e longas distâncias. Este módulo descreve como os profissionais HPS envolvidos no envio e recepção de pacientes devem atuar para manter seguros o paciente e equipe de assistência.

Objetivos de aprendizagem: 1. Conhecer as principais recomendações aos profissionais na abordagem ao heliponto 2. Compreender como a equipe deverá se portar durante abordagem ao heliponto 3. Identificar as principais riscos durante a atuação no heliponto

Áreas: Anestesia, Clínica Médica, Enfermagem, Fisioterapia

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Tutor: Thalita Santos

Conteúdo relacionado: Leituras sugeridas: Pauta de Conduta HPS, Vol. 2 - 2014, Pág. 216-223

Módulos relacionados: Recepção de Pacientes no Heliponto HPS, Envo de Pacientes da Emergência ao Heliponto, Materiais Para o Transporte de Pacientes ao Heliponto, Cuidados na Mobilização de Pacientes Após AVC

E

Módulo 55 - Reconhecendo a Parada Cardiorrespiratória - Medidas Básicas

Informações básicas

Video

RECONHECENDO A PCR

Verifique se a vítima responde

VÍTIMA NÃO RESPONDE:
Grite por ajuda para alguém próximo
Peça que uma segunda pessoa ligue para a Sala de Circuito Fechado de Televisão-HPS (Ramal: 830316)

Verifique se não há RESPIRAÇÃO ou se há respiração anormal (gasping)

F

Módulo 73 - Avaliação Clínica da Função Encefálica (Parte 1): respostas e comentários para teste Avaliação Clínica da Função Encefálica (Parte 1)

1. Sobre as estruturas do tronco encefálico e as etapas da avaliação clínica da função encefálica relacione as assertivas abaixo:

(A) Mesencéfalo
(B) Ponte
(C) Bulbo

(1) Sua função é testada nos reflexos de vômito, tosse e na prova da apneia ou reflexo respiratório
(1) Seu funcionamento é avaliado através dos reflexos córneo-palpebral, olho-ocelálico e olho-vestibular
(1) Sua capacidade funcional é testada através do reflexo pupilar

C, B e A

A, B e C

C, A e B

B, C, A

2. Assinale a alternativa INADEQUADA no que diz respeito a avaliação da função encefálica para adultos

A avaliação clínica da função encefálica é realizada nos pacientes em coma induzido por medicação

A avaliação clínica da função encefálica deve ser realizada por 2 médicos diferentes

É necessário observar intervalo de pelo menos 6 horas entre as avaliações clínicas em adultos

Antes de iniciar a avaliação clínica da função encefálica é preciso afastar os fatores confusoriais

Comentário do Tutor: A avaliação clínica é realizada em pacientes em coma de causa conhecida e áreas de fatores confusoriais, inclusive livres do uso de medicações depressoras do Sistema Nervoso Central

G

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Curso 6 - Acolhimento Virtual

Informações básicas

Descrição: O treinamento de acolhimento é oferecido aos indivíduos selecionados à compor o Corpo Clínico do HPS no momento de sua chegada à Instituição. Com esse curso será possível compreender as rotinas e atividades em curso na Instituição e realizar a primeira avaliação de seus conhecimentos, práticas e atitudes.

Áreas: Geral

Módulos constituintes: 06 - Higienização Simples das Mãos; 08 - Norma Regulamentadora 32; 09 - Encaminhamento de Pacientes Neurológicos e Neurocirúrgicos; 10 - Escala de Resultados de Glasgow; 11 - Fricção Antisséptica das Mãos com Preparações Alcolólicas; 12 - Preparação Pré-Operatória das Mãos; 13 - Montagem da Caixa de Descarte de Perfurocortantes; 14 - Desinfecção de Artigos Não-críticos; 15 - Escala de Fischer; 16 - Empatia: Característica Básica de Profissionais da Saúde; 17 - Escala de Resultados de Glasgow; 18 - Sistema Ventricular Cerebral: Anatomia Clínica e Radiológica; 19 - Encaminhamento de Pacientes Neurológicos e Neurocirúrgicos; 20 - DVE: Cuidados e Manejo Básico; 21 - Higienização das Mãos: Quem, quando e como?; 22 - Fricção Antisséptica das Mãos com Preparações Alcolólicas; 23 - Preparação Pré-Operatória das Mãos; 24 - Montagem da Caixa de Descarte de Perfurocortantes; 25 - Norma Regulamentadora 32; 26 - Cálculo da Validade e Identificação dos Medicamentos Multidoses; 27 - Desinfecção de Artigos Não-críticos

Módulos em construção: Nenhum módulo.

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H

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Histórico de Atuação Fisioterapia

Descrição:

Nome	Perfil	Módulos concluídos	Módulos aprovados	Módulos reprovados	Média dos simulados	Desempenho
Adriana Gueiros Leite de Lacerda Menezes	Aluna(a)	11	11	0	9,82	6.547625508819539
Amanda Lopes de Almeida Freitas	Aluna(a)	0	0	0	0,00	0
Amanda Valença da Silva	Aluna(a)	2	2	0	10,00	6.119402985074627
Breno Oliveira de Abreu Vieira	Aluna(a)	0	0	0	0,00	0
Carolina Landim Araújo	Aluna(a)	0	0	0	0,00	0
Caroline Oliveira Monteiro de Carvalho	Aluna(a)	30	29	1	8,78	7.057711442786069
Dayse Myrthes	Aluna(a)	0	0	0	0,00	0
Deborah Souza Carthagines de Moraes	Aluna(a)	5	5	0	10,00	6.298507462688567
Dijocy Caetano Viana Filho	Aluna(a)	2	2	0	0,75	5.309402985074627
Eduarda Lubambo Costa	Aluna(a)	3	3	0	10,00	6.17910447761194

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basic hand hygiene (black columns). March/2017 CT's planning involved blind-folded practice of this milestone for curriculum B (nursing assistants). E. Audit/Feedback are provided during face-to-face sessions (CT and DPE) and by Annually Individual Performance Report (Form). Awardees - and their hierarchical coordinators - are certified, in an effort to create supportive working environments.

Fig. 3. "Pelopidas Digital" – Virtual Teaching Platform. A. Web gateway. This e-learning tool has become available for institutional users since 2015. In January/2017, 87% of the clinical and non-clinical personnel had become users. PD-VTP has been developed to mirror HPS-CE basic tenets to provide point-of-care online tutorials on topics of cardio-neuro care, for all HPS community, expanding the coverage of CT. Access is by individual username and password. B. Web gateway provides public information on the platform, including its mission and characteristics. C. Modules are color-coded to guide users in accessing content related to his/her professional role in the Institution. The area "My Progress" in the dashboard (red circle) provides information on individual progress. D. The basic unit of the PD-VTP is a module, formed by a) introduction, b) learning objectives, c) 05-minute tutorial video or video-text, d) test and e) recommended reading and associated modules. Module exemplified: "Safety Measures While Working at the Helipad HPS". E. A 5-min-long video or video-text comprises each module. Video-text exemplified: "Recognizing Cardiorespiratory Arrest" (03:56min) F. Test on "Ascertaining Brain Death". Participants have two chances of sufficiently scoring at each test. Once testing scoring is registered, participants can browse responses. Tutors comments can be viewed for further learning. G. Modules are grouped into courses. Course exemplified: "Welcoming Virtual Training", an obligatory step to all members of HPS Community. H. Periodic auditing of the platform allows for individual and group follow-ups. On-demand auditing into physiot herapy group.

5. DISCUSSION

Support staff, such as nurses, nursing assistants, administrative and technical staff, comprises over 60% of our Institutions personnel.

The role of this group in the provision of safe, timely, quality-based healthcare, particularly when considering the areas of cardiology, neurology, neurosurgery, and interventional radiology is paramount and often overlooked in medical research.

Unlike healthcare providers who receive in-depth education and extensive training that last many years - including medical school, residency, internship and fellowship - medical support staff receive streamlined instruction that is designed and tailored for the specific type of task they perform in the clinical setting. How to professionalize the workforce of medical support staff has thus become a pressing concern for medical researchers and educators.

Without disregard to continuing education of other healthcare providers, HPS Tutorial Continuing Education Program subverts the norm by placing nursing and their support staff in the center of efforts. This tutorial training program focused on the hands-on, problem-oriented lessons for these healthcare support staff adopts objective measurements and associates learning with behavior change. By combining different didactic strategies as well as virtual and face-to-face methods the training to this group is customized to accomplish short-term training goals that

are meaningful to daily practice and empower individuals to keep advancing their own professional development.

Sensed generally, this institutional educational program encompasses self-directed learning through the gradual, motivated use of the electronic platform; approximates teaching from reality by using simulation strategies; offers personal interaction on face-to-face training and evaluation sessions. It provides audit/feedback on several forms: during face-to-face evaluations, on the individual dashboard of the electronic platform and as individual annual performance reports. For all these aspects, it approximates a multifaceted learning methodology [2].

Outcome measures and metrics [3] adopted include participation rates (attendance at face-to-face sessions and virtual platform audits), knowledge gains (as evaluated by post tests results both at face-to-face sessions and electronic platform scores), competence (as measured in practical and simulation sessions), and performance, as participants are followed up into their practices.

6. CONCLUSIONS

Problematization and the use of active and multifaceted strategies have resulted into an attractive, dynamic, and structured educational program customized to produce short-term results and, in the long run, drive self-directed lifelong learning.

The strategy is of interest to institutions sharing similar challenges.

7. REFERENCES

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