Chapter

14 Ambulatory care teaching

Section 2: Learning solutions

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Introduction

Ambulatory care refers to any place patients attend hospital facilities without being admitted as inpatients. There is now a large volume of literature on the development of teaching initiatives in these venues for undergraduates and postgraduates in both medicine and nursing (Krackov et al 1993, Irby 1995, Dent 2005).

> "More medicine is now practiced in the ambulatory setting, making the in-patient arena less representative of the actual practice of medicine and a less desirable place for students to glean the fundamentals of clinical care and problem solving than in the past"
>
> *Fincher & Albritton 1993*

Why teach in ambulatory care?

Ambulatory care takes place in a wide variety of clinical situations where patients with common clinical conditions not requiring hospital admission are present.

> "Teaching should follow the patient"
>
> *Lawson & Moss 1993*

A variety of healthcare professionals and support services in primary and community care may be involved. Consequently additional educational objectives can be met. With inpatient care student learning is usually focused on:

- clinical skills
- clinical reasoning
- patient management
- investigations
- information handling.

In ambulatory care patients are seen closer to the context of their own social circumstances and environment and their attendance in the ambulatory setting is part of a continuum in the management of their illness (Stearns & Glasser 1993).

Ambulatory care can therefore also focus learning on:

- continuity of care
- context of care
- resource allocation
- health education
- patient responsibility.

When should ambulatory care teaching be provided?

Early clinical contact is a feature of innovative curricula (GMC 2003, Harden et al 1984). As hospital wards may no longer have patients with common clinical problems who are sufficiently well to see students, ambulatory care can offer a wide range of suitable clinical opportunities for undergraduate at all stages of learning. Less experienced students who are still developing their communication and examination skills can practice these in a dedicated ambulatory care teaching centre (ACTC) which provides a "bridge" between practicing with simulated patients and manikins in the clinical skills centre and clinical exposure in busy "real" clinical situations. In the later clinical years, when more extensive clinical experience is required, students can either be timetabled for periodic visits or for extended attachments to a range of ambulatory care venues ranging from routine outpatient clinics to venues less commonly used for teaching such as the dialysis unit or endoscopy suite.

What ambulatory care venues may be available?

In addition to outpatient clinics there may be other ambulatory care venues which have not previously been considered as teaching venues:

- multiprofessional clinics where staff from a variety of disciplines see patients together, e.g. rheumatology or oncology clinic
- 'drop-in' clinics where patients may seek advice from a variety of healthcare workers, e.g. diabetic or foot care clinics
- accident and emergency department
- dialysis unit
- radiology and imaging suite
- clinical investigation unit, e.g. endoscopy suite
- nurse led clinics, e.g. for pre-assessment of surgical admissions, audiology assessment, allergy testing
- day surgery unit
- physiotherapy, occupational therapy and speech therapy departments of other professions allied to medicine
- self-help group activities and social services departments.

Although large numbers of patients may attend these facilities, suitable teaching space and additional teaching staff may not be available to make use of them. A tactful consultative approach may help to open up new venues for ambulatory care teaching. This may include careful timetabling of appropriately sized student groups, the identification of additional space and learning resources, a structured approach to the proposed learning experience and a staff development initiative.

> Developing a teaching programme in ambulatory care requires:
>
> - the identification of available venues
> - the cooperation of enthusiastic staff
> - a structured approach to teaching and learning
> - a staff development programme

Structured learning in ambulatory care

A structured approach is the key to maximising the learning opportunities available to students in ambulatory care. A variety of strategies have been described.

Logbooks

It is important to organise the content of an ambulatory care session so that students can easily identify the educational opportunities available. Strategies may be required to regulate the type of clinical problems seen and the learning outcomes to be experienced. A logbook approach can be used to list the core clinical problems to be seen during the outpatient clinic and to document the student activity and learning achieved by each patient contact (Dent & Davis 1995). Logbooks may be reviewed to assess the range of clinical conditions seen and identify omissions in student experience but their primary role should be to help students reflect on their clinical experiences.

> Ensure that students recognise opportunities to relate the educational objectives of their course to the experiences provided in the outpatient setting. Do they have a logbook to complete?

In an outcome-based approach based on the Scottish doctor (Simpson et al 2001) a logbook using a memorable acronym 'EPITOMISE' has been used in the University of Dundee, Scotland, to help students look for learning opportunites related to the various outcomes (Fig 14.1).

> The EPITOMISE acronym helps students to look for different learning outcomes in their patient encounter.
>
> E Enquiry (communication skills and ethics)
> P Physical examination
> I Investigation and interpretation of results
> T Technical procedures
> O Options of diagnosis/clinical judgement
> M Management/role of the doctor
> I Information handling
> S Sciences, basic and clinical
> E Education of the patient and yourself

> "A brilliant tool to remember the 12 learning outcomes, I will apply it to other teaching blocks"
> "A useful tool for any student, it makes you think about most aspects of the case"
> "I liked the structured way for recording the patients"
> "A good, quick way to record learning"
>
> *Student comments on EPITOMISE logbook*

Task-based learning

A list of prescribed tasks to be carried out in the ambulatory setting can be given to students. These may include:

- participate in consultation with the attending staff
- interview and examine patient
- review a number of new radiographs with the radiologist.

Additional tasks for future learning can then be built around each.

Study guides

A two-part 'TOPICAL' study guide described by Mires and colleagues (1998) integrates learning and assessment by asking students to write a structured case

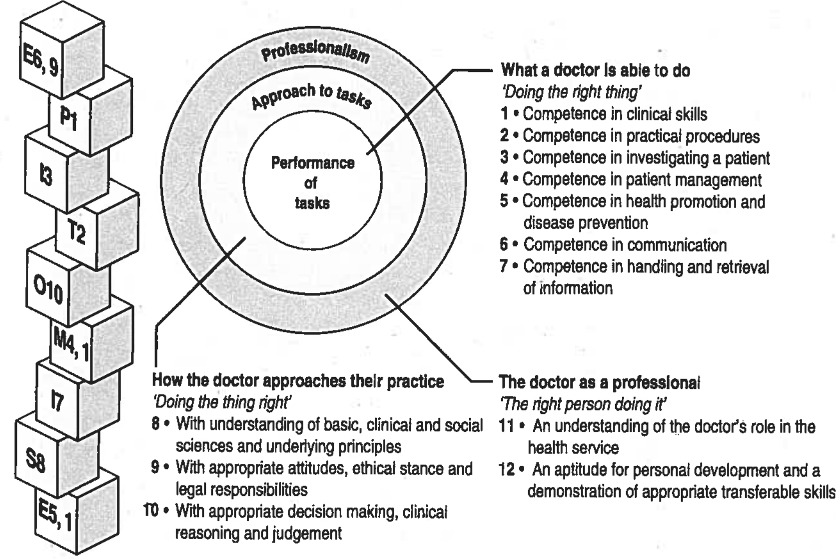

Fig. 14.1 EPITOMISE logbook links students' clinical experience in any venue to the curriculum learning outcomes of the Scottish doctor

report after seeing their patient based on topics, objectives, programme, issues for learning, clinical tasks and assessment. 'Focus scripts' described by Peltier et al (2007) are used to facilitate the learning of history taking and physical examination skills.

Similarly, using the patient journey as a template, students may be directed to follow a surgical patient through various ambulatory care venues from the outpatient department, through clinical investigations and pre-operative assessment to the day surgery unit and follow-up clinic (Hannah & Dent 2006).

Learning contracts

These have been used to promote adult learning styles for postgraduate doctors and degree course nursing students (Chan & Chien 2000, Parsell 1997)

Learner-centred approach

Students present cases to their tutor in a structured way under the heading 'SNAPPS' which encourages a questions and answer approach.

- Summarise the history and physical findings
- Narrow down the differential diagnosis
- Analyse the diagnosis by comparing possibilities
- Probe the preceptor with questions
- Plan patient management
- Select a case issue for self-directed learning.

Conferences and independent study

Higher level thinking may be focused by timetabled pre-and post- event disussions with the clinician (DaRosa et al 1997).

Microskills for students

Lipsky and colleagues (1999) describe how students can take the initiative to facilitate their own learning.

Twelve tips for students to improve their learning in the ambulatory setting:

1. Orientate to the objectives of the session
2. Share their stage of clinical experience with the tutor
3. Orientate to the clinical location
4. Read around the clinical conditions to be seen
5. Review case notes or summaries provided
6. Be prepared to propose a diagnosis and management plan
7. Explain their reasons for these decisions
8. Seek self-assessment opportunities
9. Seek feedback time from the tutor
10. Generalise the learning experience
11. Reflect on their learning
12. Identify future learning issues

Based on Lipsky et al 1999

Who can help with ambulatory care teaching?

Patients

Most importantly there are usually ample numbers of willing and available patients in ambulatory care venues.

Routine patients

"Many patients have actually enjoyed their interactions with students and have been glad to take part in their education"

Krackov et al 1993

Often students see whatever patients are attending the venue on that occasion. Patients are unselected and may or may not match the students' learning requirements so it may be difficult for the tutor to utilise them efficiently and the value of their learning experience may be diminished.

Selected patients

New patients with appropriate clinical problems can be pre-selected for a teachng session. Patients are advised that they have been appointed to attend a teaching clinic and, although they will be seen and treated by a specialist, there will be students present and their appointment may take longer than usual. They can be asked to consent to this arrangement before attending.

'Bank' patients model

"Curriculum-based patient distribution is an administrative intervention at the onset of training that creates patient panels specifically directed towards the educational needs of residents"

Brush & Moore 1994

It is possible to build a 'bank' of clinical volunteers with appropriate histories and stable clinical signs who will attend clinical teaching sessions when invited. In a systems-based course patients with a history of a relevant condition can be invited at the appropriate time. In this model the patient's contribution can more readily be focused on student learning needs. The tutor should be able to prepare the session in advance for maximal educational advantage by helping students to integrate the clinical experience to learning material they have encountered elsewhere.

Tutors

In the majority of ambulatory care settings the delivery of enthusiastic clinical teaching depends on dedicated healthcare professionals teaching at the same time as they carry out their routine patient-care tasks. When developing a teaching programme in a new location it is important to be sensitive to the possible tensions this working/teaching role may generate.

Clinicians

In most cases clinicians enjoy the stimulus of having students with them in their workplace provided that the demands of their service commitment can still be met.

Junior staff

Rather than having suddenly to take a clinical teaching session at short notice, junior staff can be helped by having the opportunity to observe good teaching sessions taken by a senior tutor.

Other healthcare professionals

Colleagues from other disciplines working in the ambulatory care setting can contribute to the teaching programme either in the OPD or their own department:

- nurses practitioners
- occupational therapist
- physiotherapist
- dietitian
- speech therapist
- chiropodist
- social worker.

Peer tutoring

Junior students appreciate peer tutoring sessions in the ACTC from more senior students. These session provide supervised practice in history taking, and physical examination and simple diagnostic procedures. Senior student find that taking the role of "tutor" is a stimulus for their own learning (see Ch. 18).

Staff development for ambulatory care teaching

Seven factors of teaching effectiveness:

- knowledge
- organisation and clarity
- enthusiasm
- group instructional skills
- clinical supervision skills
- clinical competence
- modelling professional characteristics

Irby et al 1991

Irby and colleagues (1991) list the ideal requirements of teaching staff. Formal staff development sessions may be required to help colleagues unfamiliar with clinical teaching or with the educational strategy and learning outcomes of the curriculum. Simple instructional brochures can be circulated in advance to brief tutors (Dent & Hesketh 2003), or a more interactive approach can be taken to encourage staff participation in teaching (Dent & Davis 2008).

Overall, there is probably a need for a programme director who will co-ordinate ambulatory care teaching across various venues and for an administrator, preferably with a background in healthcare, who will manage the patient bank, timetable tutors and student sessions and facilitate the provision of other resource material required.

Managing teaching in ambulatory care venues

A variety of approaches can be used to ensure students maximise their learning opportunities without disrupting patient care.

> Decide when the teaching session will end! Announcing this at the beginning will help the students to concentrate and pace themselves. No one can teach or learn indefinitely and the students may have seen as much as they can absorb without staying to the very end of the scheduled session.

> "It appears that in most cases students have been fitted into existing clinics or patterns of teaching, with insufficient effort given to achieving the maximal educational benefits of the student"
>
> *Feltovich et al 1987*

In the outpatient department

One student, one clinician

Depending on their previous experience, students may take part to different extents ranging from observation to full participation. The choice of teaching model to be used depends to some extent on the number of staff attending, the number of rooms available and the number of students present but in each model students should be encouraged to take an active approach to learning.

> Decide which model you are going to use in your clinic depending on how many rooms are available for you to use and how many members of staff are available to help with the clinic.
> Don't be afraid to change models during the clinic to vary the session for the students and yourself.

Sitting-in model

One-to-one teaching is much appreciated by students who can interact confidently with the clinician and patients but more insecure students may feel vulnerable in this setting and need encouragement.

Apprenticeship/parallel consultation model

A more senior student may be able to interview the patient either alone or under supervision. This involves active student–patient interaction which reinforces learning. Some students may feel intimidated when performing under observation but if a separate room is available they can interview and examine a patient without constraints before later presenting the case to the tutor. Regan-Smith and colleagues (2002) describe restructuring outpatient clinics to allow learners who have already had training to see patients who are booked in parallel sessions with the tutor's patients (see also Ch. 15). Walters and colleagues (2008) found that the overall consultation time was not increased when rural GPs supervised medical students in this model.

Several students, one clinician

It is often difficult for a clinician to organise teaching in a routine clinic if faced with a large student group.

Grandstand model

Frequently students are crowded into the consulting room attempting to observe and hear the consultation. Interaction with both patient and clinician is limited and patients may feel threatened by the large audience. The clinician's interaction with the patient may also be inhibited. The use of a logbook to direct independent learning may be helpful here.

Breakout model

Students sit-in with the clinician and observe a whole consultation with a patient. They then take it in turns to take the patients to another room to interview or examine at their own pace (Fig. 14.2).

Supervising model

If several rooms are available the students may be divided into smaller groups to see selected patients independently in a separate room. After a suitable time the clinician can go to each room in turn to hear the students' report on their interview. The students have time and space to interview and examine their patient at their own pace and benefit from individual feedback on their performance (Fig. 14.3).

Report-back model

Students see patients without supervision and at an appointed time take them to present to the clinician in turn. Students have time and space to interview and examine their patient at their own pace and subsequently see something of several other patients (see Ch. 15; Fig. 14.4).

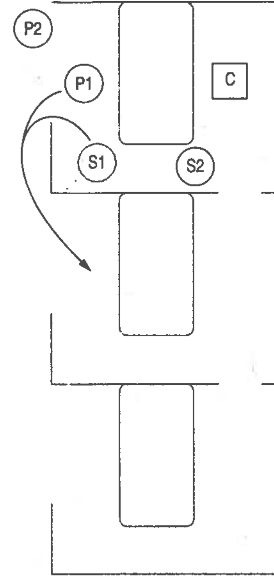

Fig. 14.2 Breakout model: students see patients independently after consultation

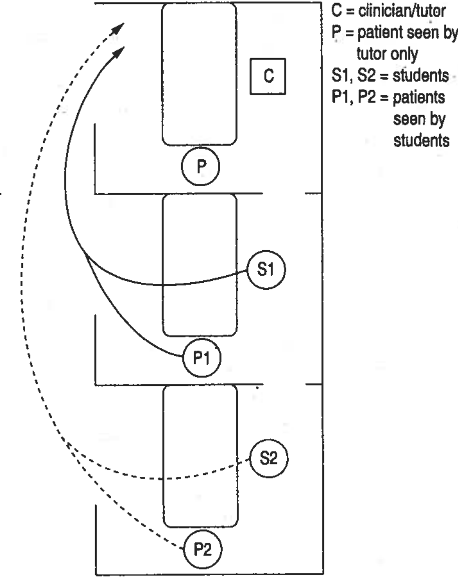

Fig. 14.4 Report back model: students see patients independently and report back with them to the tutor who has meanwhile been seeing other patients

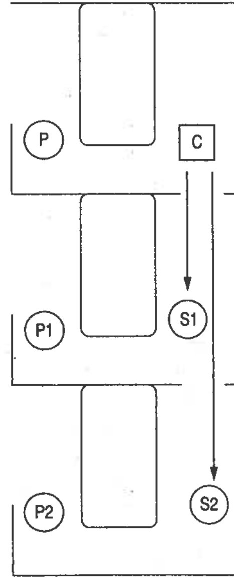

Fig. 14.3 Supervising model: students practise consultations under supervision

Several students, several clinicians

If two clinicians are available the task of organising students becomes easier.

Division and 'flip/flop' models

The student group can be divided between the clinicians present and change them over at half time. In this model the student group is reduced and the students will also see a variety of styles of clinical practice.

Shuttle model

The clinicians see patients simultaneously as usual and call the students in to see selected cases as they present. Interesting cases are not missed but there may be insufficient time for individual student–patient interaction.

Tutor model

The student group may remain with one clinician who selects appropriate patients for the students to see and runs a teaching clinic. Other patients are seen by the other clinician present.

Frye and colleagues report a week's attachment in ambulatory care combining didactic teaching and experiential learning (1998).

In a clinical investigations suite

Clinical investigations suites for radiology, endoscopy clinical measurement and vascular assesment can be used if students are directed to the particular learning outcomes available in each and if staff are able to spend some time teaching. Students can follow a structured logbook and interact with a patient in activities which may include a pre-event interview for assessment and consent by medical or nursing staff, the imaging process itself with radiographers or endoscopists (either clinicians or specialist nurses), and an interpretation or reporting session with radiologists or other specialists. Additional resources which might be available to help students to integrate their learning around these cases might include case histories, flow diagrams of mangement procedures, anatomical models or X-ray collections.

Students should also be prompted by their logbook to integrate their learning by reference to material experienced elsewhere or by directions to other helpful resources or the clinical skills centre

In the day surgery unit

Although currently underutilised (Seabrook et al 1998), attachments to day surgery units (DSUs) can provide opportunities for structured teaching following the patient journey (Hannah & Dent 2006). Experience in pre-operative assessment, diagnosis, theatre technique, and postoperative care can be provided in a multiprofessional environment. As the numbers of patients attending is usually large, and patients are usually otherwise well, it is relatively easy to structure a teaching session to maximise a variety of learning objectives. Various programmes have been described (O'Driscoll et al 1998, Seabrook et al 1998, Hannah & Dent 2006) which may be implemented without compromising patient care (Rudkin et al 1997). Twelve tips for developing a clinical teaching programme in a DSU have been described (Dent 2003).

Twelve tips for developing a clinical teaching programme in a day surgery unit (DSU):

Preparation

1. Identify the learning objectives that students can achieve in the DSU
2. Secure institutional support and form an implementation/steering group representing all parties involved
3. Discuss implications, expectations and limitations with DSU staff and tutors
4. Identify a method for selecting appropriate patients
5. Identify space for student–patient consultations
6. Reserve space in a skills training unit
7. Provide staff development opportunities.

Delivery

8. Provide a study guide/logbook
9. Employ a DSU-based tutor/supervisor
10. Provide opportunities for student reflection, tuition and assessment

Evaluation

11. Evaluate feedback from students, tutors and DSU staff
12. Discuss research and development opportunities with all parties involved

Dent 2003

In the ambulatory diagnostic and treatment centre

In some regions of the UK rurally situated hospitals have been redeveloped as ambulatory diagnostic and treatment centres (ADTCs). In these facilities a wide range of healthcare activities take place on an ambulatory basis. They can provide students with ideal opportunities to experience outpatients consultations, clinical investigations and day case therapy and surgery. A 4-week structured clinical attachment in the ADTC can provide new learning opportunities focused on ambulatory and community care (Dent et al 2007) which can be enhanced by subsequent placements with a rural general practice.

Developing an ambulatory care teaching centre (ACTC)

A dedicated teaching area can be developed in a suitable location as an ambulatory care teaching centre (Dent et al 2001a). This provides appropriate space for teachng with patients or clinical volunteers and serves as a focus for student contact with both patients and other members of the healthcare team. Appropriate space should be available for small group activities, for individual student–patient interviews (with or without supervision) and possibly for other healthcare colleagues to demonstrate particular aspects of patient care (e.g. stoma therapist). Unlike a routine outpatient clinic this protected environment provides space where students feel comfortable to practise or make mistakes free from embarrassment or time constraints.

Twelve tips for setting up an ambulatory care teaching centre:

Design

1. Allow development time
2. Integrate curriculum needs and identify organisational constraints
3. Identify interested parties and their strategic role as a committee
4. Find suitable accommodation
5. Secure a budget
6. Acquire suitable resources and equipment

Implementation

7. Recruit and train enthusiastic staff
8. Evolve an implementation function for the steering group
9. Build up a bank of patients
10. Implement a teaching plan

Evaluation

11. Develop a multifaceted evaluation process
12. Develop a research and development function for the steering group

Dent et al 2001b

Clinicians with an interest in teaching can be asked to take special teaching sessions in the ACTC. In a systems based course the philosophy is to teach only factual knowledge of 'core' importance. A 'content expert' in the system is not required for much of the teaching. The ACTC is a good venue for a peer assisted learning programme (see Ch. 18). Students may be interchanged between different tutors supervising different activities such as practice at history taking, physical examination and skills demonstration.

Supplementary resources which can be made available in the ACTC include abbreviated or constructed case notes for the "bank" patients attending, laboratory reports, radiographs or other images and equipment for practising practical procedures. A store of videotapes to illustrate communication skills and clinical examination provides a useful backup resource.

Advantages of teaching in the ambulatory care setting

The ambulatory care setting provides opportunities for undergraduate teaching which are different from those available in inpatient settings:

- A variety of common clinical conditions can be seen
- There are large numbers of both new and return patients
- Unlike ward teaching, increased numbers of students can be accommodated without overcrowding or exhausting the limited number of suitable patients
- Students have the opportunity to experience a multiprofessional approach to patient care.
- Student attention can be focused on the full range of learning outcomes
- In an ACTC a 'bank' of clinical volunteers can be used to facilitate the delivery of systems-sensitive clinical experiences
- One-on-one teaching is often available with obvious benefits to students.

"Ambulatory education is timely and needed, and, to a large degree, ambulatory programmes are being rated highly by the students who participate in them"

Krackov et al 1993

Summary

The ward setting has become less suitable for clinical teaching as inpatients are now fewer in number and more often acutely ill. Transferring the emphasis of teaching to the ambulatory care setting opens a number of previously underutilised venues for student–patient interaction. The educational objectives to be achieved are different from those traditionally seen in ward-based teaching.

A teaching programme in ambulatory care can be facilitated by:

- the identification of available venues
- a structured approach to teaching and learning
- the development of an ambulatory care teaching centre
- a staff development programme.

Strategies to facilitate learning include a structured logbook and a variety of models to manage student–patient interaction in various settings to maximum advantage.

The educational opportunities available in the ACTC can be developed further by a clinical director who can coordinate the patients attending, the 'bank' of invited volunteers and the most efficient use of colleagues from other healthcare professions.

There are advantages to medical schools recognising the increasing role ambulatory care teaching has to contribute to the undergraduate curriculum and providing appropriate resource to develop it further.

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