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Coventry and Warwickshire Partnership NHS Trust
Coventry and Rugby CCG and Warwickshire North CCG

Diagnosis of Dementia in Primary Care

This guide was last issued in Nov 2016 as part of a similar work in Coventry and Rugby CCG and Warwickshire South CCG. Details of these previous pilots or programmes have been removed.

The only clinical changes, following NICE Guidance 97 published 20th June 2018 nice.org.uk/guidance/ng97 are shown below. These changes have been incorporated into the main text.

Brain Scans
(NICE NG97 1.2.13 offer structural imaging to rule out reversible causes of cognitive decline and to assist with subtype diagnosis unless dementia is well established and subtypes clear)
Medications
For people with an established diagnosis of Alzheimer's disease who are already taking an AChE inhibitor:

- consider memantine in addition to an AChE inhibitor if they have moderate disease
- offer memantine in addition to an AChE inhibitor if they have severe disease.

Do not stop AChE inhibitors in people with Alzheimer's disease because of disease severity alone.

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Diagnosis of dementia in primary care: Pilot Project

Coventry and Warwickshire Partnership NHS Trust [CWPT], and local CCGs have agreed a programme to support the diagnosis of dementia in primary care.

The whole programme and CWPT specialist support of the programme, constitutes a specialist package of care, in-order that people/patients entering the pilot receive an level of service appropriate to their clinical needs. All patients (both in primary and secondary care) continue to be eligible for the same post diagnostic support services and anti-dementia medications.

The programme is to deliver and refine new and emerging pathways of care, in line with work and guidance from NHS England and the National Clinical Director for Dementia at NHS England (Dr Alistair Burns)[1]. The pilot supports GPs in building their capabilities to assess, detect (including diagnosis) and treat dementia and its common causes. It follows the national steer that primary care patients who are known to have dementia but cannot or will not go to specialist clinics should not be deprived of diagnosis, support and medication[1].

It consists of the following.

1. CCGs have identified GP colleagues from within CCGs This allows CWPT to focus support for these primary care colleagues from a wider group of practices.

2. CWPT is supporting primary care colleagues by providing training on diagnosis and management of dementia. This training includes the use of clinical criteria for diagnosing dementia, pre diagnostic work up including issues relating to capacity and consent, diagnostic history taking and use of appropriate tools for cognitive assessment, activities of daily living and any other relevant tools. The training also addresses issues relating to delivering the diagnosis sensitively and addressing legal and ethical issues. Additionally training includes prescription of cognitive enhancers and post diagnosis support for patients.

3. There is a defined clinical pathway which provides guidance on patients who are suitable for diagnosis in primary care, pre referral work up and a pathway into specialist Dementia services if required both for discussion of diagnosis, and referral if required, with all patients able to access post diagnosis support. CWPT will arrange for any such referrals to be fast tracked to the specialist service. The full pathway has been agreed in principle, and an extract with agreed exclusion criteria is attached overleaf.

4. CWPT will provide ongoing supervision and support for primary care colleagues involved in the programme based on discussion with them after their training to decide how best to support them.

5. The responsibility for the diagnostic process and further management will rest with the GPs participating in the programme following their training however CWPT specialists will provide support as mentioned above,

6. Currently the primary care services is restricted to non-complex patients with a long history of marked decline in memory and cognitive functioning for over 18-24 months, and patients who are frail and may not be able to engage with memory clinics and specialist services.

The Coventry and Warwickshire Area Prescribing Committee has formally agreed (March 18th 2016) that

1. For GPs who are participating in this CCG programme, and who have been suitably trained, and are working as part of the agreed pathway, that the anticholinesterases (donepezil, galantamine and rivastigmine), and also memantine are classified as specialist initiation within the specialist

drugs list. The specialist would be the suitably trained GP, who is working within the specialist service in primary care.

2. The specialist initiation classification reflects NHS England advice outlining that GPs working within new pathways of care may, in certain circumstances, diagnose dementia and initiate and monitor medications for dementia. This re-classification does not affect or apply to the wider prescribing of drugs for dementia.

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Primary Care Dementia Diagnosis Pathway Pilot v1.1

Overview: Dementia is a syndrome (essentially chronic brain failure). It is a collection of difficulties, usually of a chronic or progressive nature, associated with loss of memory and other intellectual functions that is serious enough to interfere with the ability to manage one's daily affairs and to plan things. This pilot is to support GP primary care diagnosis and treatment of longer standing non-complex dementia cases.

GP investigation / diagnosis of suspected dementia. Diagnosis is beneficial

Step One:
Is the person suitable for primary care diagnosis?

Non Complex potential patient;
- History of marked decline in memory/cognitive functioning for over 18-24 months
- Frail patients / difficulty engaging with memory clinics
- Care home residents

Complex Patient Presentation;

Refer to Specialist

Check for potential cautions and considerations

Consider what is "Normal" ageing

Step Two:
Investigations and reviews. Involve carers as well as patients

Physical health screen/tests
to unearth/treat pathology

Consider brain scans

Consider Differential diagnosis
Normal ageing
Depression
Drugs – e,g, strong anticholinergics, opioids, statins
Delirium/acute confusional state
Mild cognitive impairment

Assess/review cognition in the context of history, & a mental state examination
Mini-ACE Test

Assess/review activities of daily living

Step Three:
A summative assessment enables GP diagnosis

Consider consent to diagnosis issues

Communication of diagnosis
Feedback & discuss diagnosis
Issue post-diagnosis information pack
Prescribe anti-dementia medication as appropriate
Advice on medico-legal aspects

Post Diagnostic Support
CWPT Services
Dementia Navigators
Alzheimer's Society
Carer Assessment

When might I suspect dementia?

- Dementia may present with memory problems or with other symptoms.
- Suspect dementia if, when you ask the person a simple question, they immediately turn to their partner — the so-called head-turning sign.
- Suspect dementia when relatives are concerned about the person's memory or behaviour, but they themselves are not.
- Suspect dementia when any of the following are reported (by the person or by someone close to them) to be new or deteriorating problems:

Early recognition of dementia is a challenge, and outside the scope of this pilot

Early recognition is not easy because;

- The onset is insidious and symptoms are variable.
- The clinical picture depends on the type of disease process and areas of the brain most affected, and to an extent on the personality of the individual.
- The person and those close to them may have different understandings of the presence or absence of symptoms, disabilities, and vulnerabilities; and they may have different ideas of the need for support.
- The symptoms can be due to other causes — for example psychiatric illness, adverse effects of medication, normal ageing, confusional states, and medical conditions.
- The impact on daily life depends on the support from carers and other environmental factors.
    - If family members or carers protect the person from difficulties with activities of daily living and social roles, recognizing dementia is likely to be delayed until symptoms are severe, or the support is removed (for example when the person's partner becomes ill).
    - People with a cognitively demanding job will experience disabilities earlier than those with a cognitively undemanding job or people in care homes.
- Diagnosis can be delayed if healthcare professionals are reluctant to consider the diagnosis, or if the person and their family are reluctant to seek help for a condition they perceive as stigmatizing and largely untreatable. People with high educational attainment may delay presenting until dementia is advanced.

Diagnosis is beneficial

There are compelling arguments against avoiding appropriate diagnoses. It allows patients and carers to;

- Receive appropriate information and support.
- Access available drug and psychological treatments.
- Be better able to plan better for the future.
- Support the wider family to understand more about the diagnosis and how they can support the person living with dementia.
- Contribute to raising awareness and societies wider role in being dementia-friendly.
- Taking part in or contributing to research

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Evidence of dementia

Dementia is documented by evidence of each of the following:

1. **A decline in both memory AND other cognitive abilities.**
2. A preserved awareness of the environment, (i.e. absence of clouding of consciousness during a period of time long enough to enable the unequivocal demonstration of memory and cognition).
3. A decline in emotional control or motivation, or a change in social behaviour

Decline should be objectively verified by obtaining a reliable history from an informant, supplemented, by quantified cognitive assessments. Complex cases may also require neuropsychological tests, however please note these complex cases are outside the scope of this pilot(outside this pilots scope .

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Dementia rated as mild, moderate, or severe.

The overall severity of the dementia is best expressed as the level of decline in memory or other cognitive abilities, whichever is the more severe (e.g. mild decline in memory and moderate decline in cognitive abilities indicate a dementia of moderate severity).

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Consent (including diagnosing) issues

- Once dementia is suspected, and after a differential diagnosis / cause for difficulties has been considered, discuss the possibility of dementia with patient +/- carer.
- Explain why more detailed assessments are advised.
- Ask the person if they would like to know the diagnosis and who else they would like to be involved and informed.
- Raise the possibility sensitively, perhaps at a subsequent consultation, as many people will be devastated.
- Remember to reassure patients/carers that suspecting and investigating does not constitute a diagnosis.

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Complex Presentation – Refer to Specialist Service

- People in early stages where difficult to determine whether person has dementia or not. Typically duration of symptoms is less than 18-24 months, may be age related mild cognitive impairment [MCI]. Subjective cognitive impairment [SCI], early dementia this will require in-depth assessment including neuro psych assessments. OT assessments and some follow up to establish diagnosis.

- People **under the age of 65 years** (a greater chance of being a rarer neurological condition).

- People with **comorbid physical health** conditions including resolving deliriums, Parkinson's, multiple sclerosis, motor neuron disease or any other neurological condition.

- People with **co-morbid mental health problems** or underlying psychological problems causing cognitive difficulties.

- Patients with **Learning Disability** (LD) (especially Down's Syndrome patients)

- People with **possible Lewy body dementia** e.g. presenting with hallucinations or other psychiatric systems

- People with **possible frontal lobe presentation** e.g. presenting with changes in behaviour and personality.

- People with **cognitive decline with a history of substance misuse** (including alcohol) who have stopped using any substances for a period of 3-6 months, unable to assess if still misusing substances.

- People presenting with behavioural problems **posing risks and safeguarding issues** (financial, sexual, emotional and physical abuse and self-neglect) without a prior diagnosis of dementia.

- **People who present with legal/ethical issues** e.g. refusing to be assessed due to lack of capacity, or driving issues (once GP has taken appropriate initial steps to manage the risk e.g. advised not to drive/inform DVLA) but GPs feel they need support from specialist services

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Areas for consideration / caution

- Co-morbid head injury – the more recent the head injury the more diagnostic caution required

- People who have recently experienced significant life events – these may have a deleterious effect on cognition

- People where English is not their first language , and/or communication difficulties – history and prior knowledge will help

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Physical health screen/tests

The following primary care investigations are suggested to unearth and correct any contributing pathology.

- The extent to which the investigations are carried out depends on the patient's age and history, the results of initial tests, and the subsequent differential diagnosis.
    - Full blood count
    - Erythrocyte sedimentation rate or C-reactive protein
    - Urea and electrolytes
    - Liver function tests
    - Calcium and phosphate
    - Thyroid function tests
    - Vitamin B12 & folate
    - Random blood sugar

- Testing for syphilis serology or HIV should **not be** routinely undertaken, being only considered based on clinical history and risk.

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Brain Scans

- Offer structural imaging, to rule out reversible causes of cognitive decline and to assist with subtype diagnosis unless dementia is well established and subtypes clear

- CT scans essentially exclude brain tumours and normal pressure hydrocephalus.

- Brain tumours should be considered if history is unusually short, or sudden or fluctuating new or neurological features.

- Normal pressure hydrocephalus suspected if cognitive decline associates with abnormal gait or onset of a detrusor instability type of incontinence.

- Imaging may not always be needed in those presenting with moderate to severe dementia, if the diagnosis is already clear.

- Clinicians may choose to refer to a recent brain scan if it was undertaken whilst the patient had dementia-like symptoms.

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History

History: Assess/review activities of daily living [ADL]

There are no scores for ADLs that are as readily accepted as those for cognition. The history is as good as any to detect these. ADLs cover a range of personal care, and domestic issues.

Areas to consider include:

- Difficulties learning new information – like how to use a new phone or cooker
- Loss of previously familiar skills – such as managing tools and gadgets, cooking a meal, or reading and writing.
- Loss of interest in previously enjoyed hobbies – although this can also be due to depression.
- Difficulties managing money – although this can easily be covered up by trusting a shopkeeper to give the right change, or using a card (PIN numbers can be a challenge). Bills may not be paid and finances may get into a mess.
- As dementia advances, personal care may deteriorate – and self-neglect may become evident especially in people who live alone.

Where the person has recently lost a partner, problems with ADLs may become apparent more quickly due to loss of the partner compensating for the other person.

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History: Cognitive Symptoms; Changes in Executive Functioning

- Executive functioning, the processing of information in order to plan, sequence, make decisions, prioritise, problem solve and self monitor, is affected.
- People may have difficulties with initiating tasks, get stuck on tasks and repeat actions, or not think through the consequences of actions.
- Difficulty with planning, initiating, sequencing, problem solving often occurs early to mid course. This is especially notable in new situations or when outside of a familiar environment.

History: Cognitive symptoms: changes in memory

- Memory processes of taking in, storing and retrieving information-episodic and semantic memory are affected
- Unable to recall day/date/names/faces. Repeating questions or conversations. Getting lost or losing things. A knowledge of facts and figures remains for longer.

History: Cognitive symptoms changes in perception.

- Perception, the process of making sense of the information you see (external) and information from your body (internal) is affected.
- Unable to recognise objects. Unable to judge the position/Location of people or objects. Ignoring one side of the world (including oneself or the environment).

History: Challenging behaviours, psychiatric symptoms, and personality changes may lead you to also consider dementia

- Withdrawal or apathy.
- Depression, agitation, anxiety.
- Blunting of emotions and disinterest, social withdrawal.
- Disinhibition, inappropriate friendliness, flirtatiousness.
- Suspiciousness, fearfulness, aggression, psychosis (delusions, hallucinations).
- Insomnia.
- Restlessness, wandering, agitation, noisiness.

History: Neurological symptoms may lead you to also consider dementia

- Gait disturbances, apraxia (loss of ability to perform learned purposeful movements).

History: holistic review of the persons overall history including

- Past psychiatric history
- Medical history including vascular risk factors
- Family history and the role of genetics
- Personal history – education, employment, support system, lifestyle, premorbid personality
- Social history and support network
- Drug history, especially excessive alcohol and analgesics

Often friends and relatives notice changes before the person.

The four A's associated with possible signs of dementia

A **mnesia –** new learning, short term, episodic semantic memory.

A **phasia** (language use) initially fluent, then affected ability to initiate and maintain a conversation, loss of grammar and syntax, later language can be severely impaired.

A **gnosia** – inability to recognise objects.

A **praxia** – inability to perform motor acts.

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Differential Diagnosis

Dementia needs to be distinguished from:

Normal ageing

- Normal ageing is associated with a mild decline in cognitive function. In dementia, the cognitive impairment is more severe and global, and results in clinically significant functional disability.
- Lapses of memory are common, especially when there is physical illness or stress.
- It is normal to have occasional memory lapses and to lose things. It is normal to forget why we have gone upstairs, or to come back from a shopping trip without the very thing we went for. It is normal to have to search our brain for a name, sometimes. Our normal memory may suffer, from time to time, from impaired function through inattention, information overload or mild depression but, unless there is something wrong, we retain a huge store of general (semantic) knowledge, an ability to plan and manage our affairs and, under normal circumstances anyway, we retain our orientation in time and place
- If in doubt about the significance of memory lapses, offer to review in 3months, and if possible, get independent corroboration by a close informant who may be able to give a history of insidious decline (suggestive of early Alzheimer's disease) or of variability related to stress or anxiety.

Depression

- It is important to recognize depression because it is common, treatable, and can present with features similar to those of dementia.
- In comparison with dementia, the onset of depressive symptoms may be more rapid. Depression may become evident over a few weeks or months, while the symptoms of dementia may have been present for several months by the time the person presents to the healthcare professional.
- Depression can coexist with dementia, and if both are new diagnoses, depression should usually be treated and controlled before managing the dementia.
- Mental health problems such as anxiety and depression are often the ‘norm’ in organic impairment rather than the exception. History taking needs to help differentiate the relative contributions of functional and organic factors and give a very clear timeline of the onset, course and progression of any difficulties.

Delirium/acute confusional state

- It is important to recognize delirium (or acute confusional state) because it is common and treatable.
- In comparison with non-vascular dementia, the onset of symptoms are more rapid (over a few hours or days).
- Symptoms generally worsen at night, with increased confusion, disorientation, and emotional disturbance (fear, irritability, aggression). Paranoia and hallucinations (visual or auditory) are common.
- Common causes of delirium include chest infection, urinary tract infection, adverse effects of drugs, biochemical imbalance, and alcohol withdrawal.
- Delirium can coexist with dementia, and if both are new diagnoses, delirium should usually be treated and controlled before managing the dementia.

Drugs / medications

- Drugs with strong anticholinergic properties may affect cognition, and may also contribute to the delirium risk.
- People with Alzheimer's disease (AD) may be at particular risk of cognitive deterioration secondary to medications with anticholinergic effects because of marked reduction in the functioning of central cholinergic pathways.

- Unfortunately, some of these drugs are used very commonly in older patients – drugs for bladder instability, for instance.
- It may be possible to reduce doses or to stop drugs that do not appear to be effective.
- Statins have been occasionally reported to affect cognition. Affected patients typically comment that they "feel funny or fuzzy headed". These side effects should diminish about two to three weeks after statin withdrawal.
- Click here for some drugs to avoid in dementia

Mild Cognitive Impairment patient information leaflet

A CWPT patient information leaflet on Mild Cognitive Impairment is available in print or online via https://www.covwarkpt.nhs.uk/adult-information-leaflets and scroll down to Memory and Dementia, under the mental health leaflet section/

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Mini – Addenbrookes Cognitve Examination [Mini-ACE]

Cognition should be assessed in the context of a patient who is not acutely unwell (when symptoms may be caused by delirium), or suffering from depression. If a patient's cognition has been flagged up during a hospital admission, they need at least a couple of weeks, and sometimes considerably more, to recover and settle down at home before an assessment is done.

Cognitive testing forms just one part of an assessment for dementia, and cannot be considered on its own. It needs to be placed in the context of the history, mental state examination and overall functioning. There is no such thing as a 'dementia test'.

Mini-ACE is a non-copyrighted alternative to the MMSE. Although the Mini-ACE is relatively simple, it should not be rushed. This is not good for the examiner or for the patient. It is generally not practical to build a cognitive test into a routine GP consultation.

Cognitive testing is best done by someone who can become experienced in using the test and has sufficient time to put patients at ease and observe for clues. Many patients have built up impressive adaptive skills and can present very well, even if they have very significant cognitive problems.

Some patients are very keen to do the cognitive tests but some may have a great fear of being 'shown up'. Some may have a fear of revealing a lifetime of illiteracy, some may not want their family to know how bad their memory has become, so great care needs to be taken in preserving dignity.

The mini ace is more sensitive than the MMSE and is less likely to have ceiling effects. It is also a brief and sensitive cognitive screening tool for dementia

The Mini-ACE consists of five items with a maximum score of 30.

- Scoring $\leq$ 25/30 has both a high sensitivity and specificity.
- Scoring $\leq$ 21/30 is almost certainly a score to have come from a dementia patient.

The test includes orientation to time, animal fluency, drawing of a clock, learning and recall of name and address.

Drawing of a clock, with hands at a certain time, is a good review of a wide range of cognitive skills. If the drawing is carried out correctly dementia is doubtful.

Care needs to be taken in interpreting any score. Literacy, educational attainment, learning disability and specific learning difficulties will affect scores. Always sense-check a score, does it feel correct. Inappropriately low may be the result of poor engagement or high levels of anxiety and the test may have to be repeated. It is important not to jump to conclusions about the cognition score.

Click here for the rating test

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Communication of diagnosis

People who are unprepared for a dementia diagnosis may suffer a shock with an adverse outcome. A pre-assessment discussion and informal feedback helps to reduce anxiety, manage unrealistic expectations and therefore minimise distress.

The pre-assessment counselling should be in line with GPs existing clinical practice in relation to capacity and consent, patient confidentiality, and person centred care.

Pre-assessment counselling it is useful to impart a clear understanding to patients/carers of the assessment process. As well as gaining informed consent, capacity should be assessed. The person should be asked whether he/she wishes to know the diagnosis and outcome of the assessment, and whether they are willing to share information with family/carers.

Post assessment, delivering the diagnosis should be undertaken with adequate time, and clear communication of the outcome of the assessment, diagnosis, and the need for any further tests.

Patients/carers value an overview of the prognosis, discussion of treatment options, being given information on how to access local support services and guidance on living well. Discussion of medicolegal issues-financial, planning ahead and driving issues is also useful, as is support for carers and families in accessing post diagnostic services.

A diagnosis of dementia may take away many hopes and generate many fears. There may be many losses such as loss of control, independence, relationships, or financial control. Societal, cultural and personal stigma may still be in issue, and work may be required with families and others with different understandings/levels of awareness or insight and explanation for the persons with dementia is difficulties. It should also be recognised that there may be an impact on primary care staff members, who are also coping with their own emotions and loss.

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Anti-dementia medication

Anti-dementia medication (Acetylcholinesterase Inhibitors [AChEIs] and memantine) aim to manage symptoms. They are not a cure.

There is very little difference in effectiveness or side-effects between the various drugs and the cheapest AChEI (donepezil) is generally used first. Other AChEIs are galantamine or rivastigmine. Memantine is an NMDA receptor antagonist, which is useful in moderate to severe dementia, or if cardiac problems preclude use of AChEIs.

Before prescribing Acetylcholinesterase Inhibitors [AChEIs], it is important to look at the drugs the patient already takes. Consider stopping or reducing anticholinergic drugs. AChEIs work by blocking the enzyme that breaks down acetylcholine, thereby raising its level in the brain.

All AChEIs are licensed for mild to moderate dementia but can be continued into severe dementia if they are deemed helpful for non-cognitive symptoms.

Treatment should only be started where it is felt to have a worthwhile effect on a patient's symptoms. These medicines can gradually improve, stabilise or at least reduce the rate of decline (but don't halt it) so it is always very difficult to know how long to give them before deciding they're not working. Once medication starts to work family and carers often report the person "seems brighter", or "is more settled". A review at three months is useful, mainly to see if the patient is tolerating treatment.

Donepezil is the recommended 1st line option. Galantamine (prescribed as once daily Gatalin® XL) is the main second line option.

Rivastigmine is licensed for dementia in Parkinson's disease, so may be preferred if hallucinations are a prominent presenting feature.

If the first AChEI is not tolerated, try a second, but not a third.

For people with an established diagnosis of Alzheimer's disease who are already taking an AChE inhibitor:

- consider memantine in addition to an AChE inhibitor if they have moderate disease
- offer memantine in addition to an AChE inhibitor if they have severe disease.

Do not stop AChE inhibitors in people with Alzheimer's disease because of disease severity alone.

AChEIs and memantine may be used together in severe dementia for improving Behavioural and Psychological Symptoms of Dementia (BPSD).

Key information to counselling for patients and carers on includes;

- The medicine is not a cure, it "impacts on chemicals in the brain, not the disease itself"
- It aims to maintain the persons current functional status, and to try and slow down any further decline
- Most side effects wear off after a couple of days
- Medicines are only part of the 'jigsaw' of care available to people
- The medicines now continue long term. In the past they would have stopped when cognition had declined, but now the medicines are given long term/life long as they also help with behavioural or social functioning.
- Medicines information is available from your pharmacist, doctor or nurse.
- **A good web-site for written carer / patient medicines information is** http://www.choiceandmedication.org/coventry-and-warwickshire/

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Cautions in prescribing acetylcholinesterase Inhibitors [AChEIs]

There are no absolute contraindications to prescribing AChEIs except for hypersensitivity, but there are cautions

Cardiac

- NICE advises that pre-treatment ECGs are based on clinical presentation, i.e. not required for all patients.
- A pre-treatment ECG is required if the pulse is <70, or irregular, or there is a history of cardiac, or concomitant medications that slow the heart are given.
- Exercise particular caution in patients with cardiac conduction deficits, particularly sick sinus syndrome or other supraventricular conditions such as heart block.
- Use with great caution if pulse rate is < 60 beats per minute, or on digoxin, beta-blockers or other medication that reduce the heart rate.
- If pulse is > 70 and regular there is no necessity to undertake an ECG.Usually safe in atrial fibrillation if well controlled and pulse is above 60 bpm.
- For patients on beta-blockers consider a reduction in AChEI to keep pulse >60 bpm.

Physical

- Take care with anything where increased cholinergic activity may be detrimental, therefore caution in COPD / asthma; urinary retention, history of peptic ulcer.
- Also caution in patients taking antimuscarinic drugs (expect by inhalation) due to increased risk of confusion.

Acetylcholinesterase Inhibitors [AChEIs] – See BNF of SPC for full details			
Drug	**Indication**	**Dosage**	**Main Cautions or Side effects**
First Line: **Donepezil** (cheapest, long half-life of 70 hours)	Alzheimer's disease, mild and moderate	5mg daily for at least one month, then increased to 10mg once daily if required. Start as night time dose but can be taken at any time once patient is used to it	Syncope. Bradycardia, conduction defects, asthma, COPD, peptic ulcers GI side effects, nausea, diarrhoea. Hepatic impairment. Mild to moderate reduce dose to 5mg daily. Renal impairment – no affect.
Gatalin ™ XL (Galantamine) **Prescribe by brand**	Alzheimer's disease, mild and moderate	8mg once daily starting dose, increasing monthly to max of 24mg	Cautions as side effects as for donepezil. **Plus** avoid in urinary retention. History of seizures May be better than others for insomnia Hepatic impairment. Moderate, max of 16mg daily. Renal impairment. Contraindicated in severe impairment.
Rivastigmine (short half life, must be twice daily)	Alzheimer's disease mild and moderate and Dementia in Parkinson's disease.	1.5mg twice daily to 3mg twice daily. Doses above 3mg twice daily often cause undue side-effects. Increase dose at monthly intervals	Cautions as side effects as for donepezil. **Plus** Oral must be given twice daily with food to reduce nausea and GI side-effects Patches are more expensive but have lower side effects. Ensure old patches are removed Hepatic impairment. Mild to moderate, reduce dose to tolerability. Renal impairment – no affect.

NMDA antagonist [N-methyl-D-aspartate]			
Memantine	Alzheimer's disease, moderate to severe. Preferred drug if there are cardiac conduction problems or bradycardia.	Ready made titration pack going from 5mg once daily to 20mg once daily maintenance within the month.	Check renal function before prescribing constipation hypertension dizziness Hepatic impairment. Mild to moderate, no affect. Renal impairment. Moderate 10 to 20 mg. Severe 10mg max.

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Donepezil, Galantamine, Rivastigmine, and Memantine for use in the treatment of Dementia

Anti-dementia drug recommended

Donepezil is the usual first line option

→

Initiate Treatment

As advised below.

The Coventry & Warwickshire Area Prescribing Committee has sanctioned GP Specialist initiation of anti-dementia medication as part of this pilot

→

Increase the dose until the **highest tolerated dose** is reached.

See below

→

Monitor for side-effects

See below for more information

Adverse reactions ADRs (e.g. nausea, vomiting, abdominal pain or loss of appetite), observed shortly **after dose increases**, *may respond to omitting one or more doses*.

Persisting ADRs? - temporarily reduce the daily dose to the previous well-tolerated dose or consider switching to an alternative drug.

→

3 month review

Mainly to check patient tolerating treatment, and benefits are commencing.

→

Monitor for effectiveness and annual review

at least once every 12 months (using a global assessment of functioning and behaviour .

Treatment continued long term if tolerated. Do not stop based on disease severity alone

Doses:

AcetylCholinesterase Inhibitors (AChEI)

1st Line
DONEPEZIL HYDROCHLORIDE
Dose - Initially 5mg once daily at bedtime, increased *after 1 month* to max. 10mg daily.

2nd Line
GALANTAMINE
Dose - Prescribe by brand as Gatalin® XL once daily:
8mg in the morning for 4 weeks increased to 16mg daily for 4 weeks then 24mg daily
(Swallow XL whole with plenty of water).

Alternative, particularly in Parkinson's disease
RIVASTIGMINE
Dose - Initially 1.5mg BD with morning & evening meals. Increase after 2 weeks to 3mg BD. Doses >3mg BD are much less tolerated. If treatment interrupted > 3 days, restart at 1.5mg BD.
(Patches see BNF)

Moderate to Severe, or cardiac issues
NMDA Antagonist

MEMANTINE HYDROCHLORIDE
Dose - Initially 5mg once daily at the same time each day, increased in steps of 5mg at weekly intervals to 20mg daily.
Note - the titration packs - *only* for titration phase.

For people with an established diagnosis of Alzheimer's disease who are already taking an AChE inhibitor:
- consider memantine in addition to an AChE inhibitor if they have moderate disease
- offer memantine in addition to an AChE inhibitor if they have severe disease.

Monitoring and Side-effects:

- Patients usually continue treatment in the long term, unless it is not tolerated.
- For weight loss. AChEIs have been associated with weight loss - be mindful of the potential for weight loss.
- Be mindful of the potential for symptoms of peptic ulcer disease or gastrointestinal bleeding. Patients at increased risk for developing ulcers include those with a history of ulcer disease or those receiving medicines which will increase risk of bleeding e.g. non-steroidal anti-inflammatory drugs (NSAIDs), aspirin, anticoagulants, selective serotonin reuptake inhibitors (SSRIs).
- Other potential side effects include dizziness, fainting, bradycardia, but refer to the current BNF for full lists (some are medication specific)
- Nausea, dizziness, insomnia and diarrhoea are usually transient at the start of treatment and after a dose increase. Increased gastro-intestinal side-effects with rivastigmine are minimised by slower titration and taking with food. Rivastigmine patches have less side effects.

Forgotten Doses

Wait &take the next dose at the usual time. Double doses should not be taken to make up for a forgotten tablet. If treatment is interrupted for several days re-titration may be required to reduce the possibility of adverse reactions (See Table).

Treatment Interruption: Number of days after which re-titration is required			
Donepezil	Galantamine	Rivastigmine	Memantine
7	7	3	3-7 days: titrate up from 10mg >7 days: re-titrate from 5mg

Switching between drugs used in dementia

The benefits of treatment with drugs used in dementia are rapidly lost when drug administration is interrupted, and may not be fully regained when treatment is re-initiated.

Poor tolerability with one agent does not rule out good tolerability with another

How to Switch:

(If switching because of lack of benefit - Before switching consider has optimal therapy with the initial agent been achieved - compliance and optimum dose achieved?)

Adverse effects (intolerance) - consider a washout period of 7-14 days after donepezil (1-2 days after galantamine/rivastigmine) or until all toxicity has resolved. Then initiate 2nd ChEI as advised above. Monitor carefully for cholinergic toxicity. A decline in function may occur during the transition. If deciding to switch immediately, start the new drug at the lowest dose, titrate slowly & monitor carefully.

Lack of benefit - consider a direct switch, stopping the first AChEI abruptly and titrating the dose of the 2nd AChEI as above.

Loss of benefit - switching to another AChEI is *not recommended*. Consider switching to **memantine.** Stop AChEI & initiate memantine as above. (To reduce the risk of withdrawal effects prescribers my consider overlapping therapy for one month before stopping the AChEI).

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Post Diagnostic Support

Following a diagnosis of dementia, access to post-diagnostic support and interventions are an essential and necessary stage in the dementia pathway. The diagnosis of dementia can have a psychological impact on the person and their family which can range from feelings of frustration, guilt, shock, fear, grief and loss of confidence through to clinically significant levels of anxiety and depression. Therefore access to timely psychosocial interventions, support and advice will help promote adjustment, psychological well being, resilience and self-management which in turn will help to minimise and alleviate distress in people with dementia and their families. As a consequence, a person with dementia will remain independent for longer, carers will be more able to cope with the demands of caring and know where to ask for help.

Support Available Post Diagnosis

A range of support is available to people with dementia and their families immediately after diagnosis in Coventry and Warwickshire. This includes:

- Provision of information, guidance & sign posting
- Groups & individual support by CWPT
- Dementia Navigators
- Admiral Nurses (Coventry & Rugby)
- Alzheimer's Society (including Dementia Cafes)
- Age UK
- IAPT

Post Diagnostic Information Packs - Locality specific information packs have been developed in collaboration with the local authority, public health, the voluntary sector and libraries and aim to provide people with information about services that are available within the area in which they live. The packs have been reviewed by a Service User group (SURP) and were modified in light of their feedback.

CWPT "Next Steps" Post Diagnostic Groups - The "Next Steps" group aims to provide post-diagnostic support and information to people with a recent diagnosis of dementia & their families. It is under-pinned by 5 Pillar Model with an emphasis on partnership work with third sector organisations and is run by Clinicians in each locality. The content varies according to locality & other support services available. Topics include:

- What is Dementia?
- Who can help & what is available
- Understanding Behavioural change in dementia
- Coping with dementia – adjustment & support

CWPT Coping with forgetfulness - This group was developed to help people with early stage dementia & mild cognitive impairment cope with & compensate for their difficulties. The group provides:

- A chance to meet other people experiencing similar problems
- Practical skills & strategies to help with cognitive difficulties
- Addresses the emotional impact of living with cognitive impairment

Individual Interventions - CWPT offers a range of specialist individual interventions, accessed via referral to CWPT Community Dementia Service. These include:

- One to one psycho-education and specialist advice
- Specialist intervention for the management/treatment of mental health problems secondary to the diagnosis of dementia in people with dementia and their carers.

- Interventions provided by specialist mental health social workers e.g. carer/financial assessment, care packages/transition into 24hour care
- Interventions regarding behavioural and psychological symptoms of dementia (BPSD) or positive behavioural support
- Safeguarding issues or risks (most people with dementia and their carers are likely to experience these at some stage during their illness)
- Occupational Therapy Interventions, including Assistive Technology

Other local services:

Dementia Navigators – The service provides a single point of access to information and advice, practical and emotional support and signposting to local support services.

Dementia Café's – Dementia Café's provide safe, comfortable, supportive environments for people with dementia and their carers to socialise with peers and share information, advice and experiences. There are a number of cafes held in various locations across Coventry & Warwickshire.

Dementia Day Opportunities – Dementia Day opportunities are services for people with early to mid stages of dementia, which also offers a break from caring to families. These services are provided in a variety of locations across Coventry and Warwickshire.

Coventry and Warwickshire's Living Well with Dementia website – The Living Well with Dementia website is a one stop information website developed for people with dementia and their carers living in Coventry and Warwickshire. https://dementia.warwickshire.gov.uk/

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Medico-legal Aspects of Dementia

Mental Capacity Act (MCA)

The principles of capacity are simple; can a person take in the information, retain it for sufficient time, use it to help make a decision and then express that decision?

Despite this simplicity, capacity assessments are not always easy. Just because one person may judge a decision to be unwise, the unwise decision in itself does not mean the person lacks capacity to make that un-wise decision. People have the right to make unwise decisions – capacity assessment is about the process of decision making, not about the decision itself. Assessing whether someone fully understands the consequences of an unwise decision can be quite difficult and it may help to discuss it with another colleague.

Capacity is issue/decision specific and should be assessed by the person who needs the answer to the question that is being asked. A person may not be able to decide whether to sell their home, but they may be able to choose how they would want to have their room decorated, or what clothes to wear that day.

Capacity varies over time so do not make the mistake of writing a capacity assessment on a person you might have seen three months ago.

There are two common misconceptions about assessments: one is that they have to be done by a professional; and the other is that people can be deemed to have lost capacity generally. A lawyer, drawing up a will, for instance, is the correct person to assess the patient's capacity in this matter but may ask for corroborative medical information to assist their assessment.

Capacity has 5 core principles

1. A person is assumed to have capacity unless it is established that they lack capacity
2. A person is not treated as being unable to make a decision, unless all practicable steps to help them decide have been tried (unsuccessfully)
3. A person is not treated as unable to make a decision merely because the decision they make is unwise
4. An act done, or decision made under this Act , where the person lacks capacity, should be made in their best interests
5. Before the act is done, or the decision is made, regard must be had that the action is the least restrictive

The diagnostic test as to whether a disturbance or impairment in the functioning of mind/brain has affected capacity is, can the person understand the information, retain it for long enough to weigh it up, then communicate their decision.

Best Interest Meetings for people is beyond the scope of this guide. However in short when making a best interest decision;

- Don't make assumptions
- Consider the individual's own wishes, feelings, beliefs and values, and involve them if possible
- Consider any advance decision statements
- Take views from family and informal carers
- Consider can the decision be put off until the person regains capacity?
- Take into account views of independent mental capacity advocate, attorney, or deputy
- Be able to show that the decision is their best interest and is the least restrictive alternative or intervention.

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Independent Mental Capacity Advocates (IMCAs)

The main roles of the IMCA are in relation to the Mental Capacity Act and in safeguarding of vulnerable adults. People making important decisions about someone who lacks capacity are required to consult with relatives or carers when reaching a best interests decision.

If a patient has no-one who can speak for them, an IMCA will be appointed. IMCA involvement is required in safeguarding decisions for vulnerable adults in order to ensure that every opportunity has been taken to understand the patient's needs, and the patient has had appropriate help to express their wishes and views.

IMCAs can only work with people who meet the criteria set out in the Mental Capacity Act (MCA) and the Expansion Regulations. They cannot start working with individuals until they have been instructed by an appropriate person as set out in the MCA, (for example, a doctor who has to make serious medical treatment decisions).

You can find an IMCA via http://www.scie.org.uk/publications/imca/find/ .
As of November 2016 the local contact details are: **Coventry & Warwickshire:** VoiceAbility 0300 330 5499
http://www.voiceability.org/services/coventry-and-warwickshire/independent-mental-capacity-advocacy-imca

Advance decisions to refuse treatment [ADRT]

Under the Mental Capacity Act, any patient can write an ADRT. In order to be used, this needs to be kept in a place where it can be found when needed. It is best for patients to send copies to relatives and for the existence of the document to be on the patient record.

As long as the patient retains capacity they can rescind the document at any point.

The patient can only dictate what medical care is NOT to be done in the event of them losing capacity. Common requests are not to be resuscitated, ventilated or artificially fed.

It does not cover treatment under the mental health act, except to refuse electro-convulsive therapy.

Information can be obtained from the Alzheimer's Society website.

Lasting Power of Attorney (LPoA)

Lasting Power of Attorney sits within the Mental Capacity Act 2005. It is a legal arrangement to allow someone to appoint another person to make decisions on their behalf. It only takes effect in the event of them losing relevant capacity.

It is a form of advance planning and it has to be done while a person is still able to understand who it is they want to act for them, and what it is they want them to do.

A GP may be asked for an opinion as to whether a person has capacity to appoint someone as LPoA. Once a patient loses capacity, it is too late, and a deputy needs to be appointed through the Court of Protection. This is much more expensive.

LPoA can cover financial affairs or decisions about care, or both. It is quite easy to do, and a lawyer does not necessarily have to be involved. Forms are available from the internet and the Alzheimer's Society has useful information.

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Deprivation of Liberty Safeguards (DoLS)

In essence, DoLS legislation is about ensuring that a patient who lacks capacity has the benefit of a formal process if a decision is made to care for them in a place from which they cannot leave.

This pertains even if the patient is content in their placement and is not trying to leave, so it applies to care homes where the door is locked to prevent patients wandering and getting into danger.

An application to the Court of Protection is required. Temporary DoLS arrangements can be applied in an emergency but all longer term DoLS placements need to go through the Court.

Court of Protection [CoP]

The Court of Protection makes decisions on financial or welfare matters for people who can't make decisions at the time they need to be made (they 'lack mental capacity').

It is responsible for:

- deciding whether someone has the mental capacity to make a particular decision for themselves
- appointing deputies to make ongoing decisions for people who lack mental capacity
- giving people permission to make one-off decisions on behalf of someone else who lacks mental capacity
- handling urgent or emergency applications where a decision must be made on behalf of someone else without delay
- making decisions about a lasting power of attorney or enduring power of attorney and considering any objections to their registration
- considering applications to make statutory wills or gifts
- making decisions about when someone can be deprived of their liberty under the Mental Capacity Act

Office of the Public Guardian [OPG]

This office protects people in England and Wales who may not have the mental capacity to make certain decisions for themselves, such as about their health and finance.

Its roles include;

- Maintaining a register of LPAs
- Supervising Court of Protection deputies
- Directing Court of Protection visitors to visit those lacing capacity
- Provide reports to the Court of Protection, and receive reports from LPAs
- Review complaints about LPAs

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Driving and cognition

Knowing whether or not someone is able to drive is not always easy, and knowing how to tell them is even less easy because driving can be strongly associated with independence and self-esteem.

Concerns are usually raised by the family but, if not, patients and relatives need to be asked about driving. Ask about a history of frequent bumps, near misses or frights, or getting lost on familiar journeys. A good test is whether a relative will allow themselves, or their children or grandchildren, to be driven by the patient.

Patients with a diagnosis of dementia must inform the DVLA *and* their insurance company. It is illegal not to do so. The DVLA will send an enquiry form to the patient and will then contact the doctor. Disqualification is not automatic, and the DVLA may continue to issue a licence – usually for a year at a time.

Many people with dementia retain learned skills and are able to drive safely for some time after diagnosis. However, as dementia progresses beyond the early stages it has serious effects on memory, reactions, perception and the ability to perform even simple tasks. People with dementia will, therefore, eventually lose the ability to drive. The stage at which this happens will be different for each person but, according to research, most people stop driving within three years after the first signs of the disease.

If a doctor advises a patient not to drive, the patient needs to be told that their insurance is not valid in the event of an accident and it is an offence to drive without insurance. A compromise option may be for the patient to voluntarily stop driving until a driving assessment at a local mobility centre can be arranged. If all else fails, and the patient continues to drive against advice, either the doctor or a relative needs to notify the DVLA of their concerns. Some families use subterfuge to disable the car or 'lose' the keys.

It currently (Nov 2016) typically costs about £40 to take a driving assessment at a local mobility centre if referred via the NHS, or £80 if a self-referral. The patient will bear the cost if they refer themselves. If the patient drives their own car to the assessment, they need to bring someone with them as they will not be allowed to drive home if they do not pass.

The main local assessment centre is in Saltley, Birmingham. Tel: 0845 337 1540 info@rdac.co.uk www.rdac.co.uk

There is good information on the Alzheimer's Society website, or via Newcastle University https://research.ncl.ac.uk/driving-and-dementia/downloads/

The General Medical Council offer clear guidance about notifying the DVLA when the person cannot or will not exercise their own legal duty to do so. done so. Click here to access the guidance.

The government's Medical professional guide to assessing fitness to drive can be found here

Appendix 1: ICD10 Research Criteria for Dementia

<table>
<tr><td colspan="2">Evidence of each of the following:
1. A decline in both memory AND other cognitive abilities.
2. A preserved awareness of the environment, (i.e. absence of clouding of consciousness during a period of time long enough to enable the unequivocal demonstration of memory and cognition).
3. A decline in emotional control or motivation, or a change in social behaviour

Decline should be objectively verified by obtaining a reliable history from an informant, supplemented, by quantified cognitive assessments.
Complex cases may also require neuropsychological tests, however please note these complex cases are outside the scope of this pilot(outside this pilots scope ,</td></tr>
<tr><td colspan="2">Dementia rated as mild, moderate, or severe. The overall severity of the dementia is best expressed as the level of decline in memory or other cognitive abilities, whichever is the more severe (e.g. mild decline in memory and moderate decline in cognitive abilities indicate a dementia of moderate severity).</td></tr>
<tr><td>A decline in memory:

Most evident in the learning of new information, although in more severe cases, the recall of previously learned information may be also affected.

Impairment applies to both verbal and non-verbal material.

For this pilot this is evident typically over at least 18-24 months</td><td>Mild: a degree of memory loss sufficient to interfere with everyday activities, though not so severe as to be incompatible with independent living.
Main function affected is the learning of new material, e.g. the individual has difficulty in registering, storing and recalling elements in daily living, such as where belongings have been put, social arrangements, or information recently imparted by family members.

Moderate: A degree of memory loss which represents a serious handicap to independent living.
Only highly learned or very familiar material is retained. New information is retained only occasionally and very briefly.
The individual is unable to recall basic information about where they live, what they have been recently doing, or the names of familiar persons.

Severe: a degree of memory loss characterized by the complete inability to retain new information.
Only fragments of previously learned information remain. The subject fails to recognize even close relatives.</td></tr>
<tr><td>A decline in other cognitive abilities:

Characterised by deterioration in judgement and thinking, such as planning and organizing, and in the general processing of information.

Deterioration from a previously higher level of performance should be established.</td><td>Mild: The decline in cognitive abilities causes impaired performance in daily living, but not to a degree making the individual dependent on others. More complicated daily tasks or recreational activities cannot be undertaken.

Moderate: The decline in cognitive abilities makes the individual unable to function without the assistance of another in daily living, including shopping and handling money. Within the home, only simple chores are preserved. Activities are increasingly restricted and poorly sustained.

Severe: The decline is characterised by an absence, or virtual absence, of intelligible ideation.</td></tr>
<tr><td>Additional possible signs of dementia

Click to go to start</td><td>Amnesia – new learning, short term, episodic semantic memory. Aphasia (language use) initially fluent, then affected ability to initiate and maintain a conversation, loss of grammar and syntax, later language can be severely impaired. Agnosia – inability to recognise objects. Apraxia – inability to perform motor acts.</td></tr>
</table>

Appendix 2: Sub-types of dementia.

This pilot covers Alzheimer's Disease, and Mixed Alzheimer's/Vascular Dementia

Sub-typing is important. Anti-psychotics are potentially life-threatening in Lewy Body Dementia (LBD) and in dementia associated with Parkinson's Disease (PD).

Acetylcholinesterase inhibitors do not work in purely vascular dementia. However, the older a person is, the more difficult it can be to draw clear dividing lines between dementia sub-types, and features of all sub-types may be present.

Alzheimer's Disease [AD]
The key feature is the insidious deterioration in memory and other executive functions (reasoning, flexibility, task sequencing etc). If relatives cannot date when the symptoms started ('probably two or three years ago'), then Alzheimer's Disease (AD) is likely. Patients who complain bitterly about their memory, and are always 'much worse' each time you see them, despite relatively stable cognitive tests, are likely to be depressed.

Vascular Dementia
There is a step-wise presentation – sometimes noticeable after a 'funny do', an episode of illness, or an operation. If relatives say it started suddenly, then a TIA or small stroke is likely. Vascular dementia can remain static for long periods, and may progress in little jumps.

Mixed Alzheimer's/Vascular Dementia
It is not always possible to make a clear distinction between Alzheimer's Disease and vascular dementia. It is helpful to think of the combination as being a bit like 'two and two makes five' – each illness augmenting the other so that the end result is greater than the sum of its parts. Memory drugs can be tried for the Alzheimer's disease component.

Lewy Body Dementia and Dementia in Parkinson's Disease
These two types of dementia are related but not quite the same.

In Lewy Body dementia, dementia comes first and 'Parkinsonism' often develops later -although often without tremor. In dementia in Parkinson's Disease, the Parkinson's Disease comes first, and one in six patients with Parkinson's Disease go on to develop dementia.

In Lewy Body Dementia, memory may be well preserved at first, but deteriorates later. The key features are difficulties with attention, arousal at night, marked fluctuation in levels of cognition and confusion, vivid, and often highly developed, hallucinations, sensitivity to neuroleptics and REM sleep disorder.

Focal Dementias
There are three main types: Frontal Lobe Dementia (FLD), which was previously known as Pick's Disease; Semantic Dementia; and Primary Progressive Aphasia. Frontal Lobe Dementia is particularly difficult because it often presents in a younger age group. In the behavioural variant, it may take several years before the condition is diagnosed. The development of inflexibility and unreasonableness, blunting of social sensitivity and, sometimes, aggression may damage important relationships before the diagnosis is suspected. Semantic dementia affects language, speech is fluent but impoverished, with loss of the store of information and facts (semantic knowledge). In Primary Progressive Aphasia, the meaning of language is maintained but speech becomes sticky. Other features of Alzheimer's Disease may later develop.

Young onset dementia
This is generally defined as when the age of onset is under 65. There are a number of particular features of young onset dementia which are important such as: the greater diagnostic difficulty as presentations can be atypical; the higher rate of neurological disorders causing symptoms; the physical fitness of most younger people; and the very different social impact of the diagnosis as young children are often in the home.

Learning Disabilities
Individuals with learning disability (LD) are at higher risk of developing dementia and the specific association between Down's syndrome and Alzheimer's disease is well recognised. The assessment of cognitive impairment in LD needs special care, paying attention particularly to co-morbid physical and mental health disorders and less reliance of standard tests of cognition. Specialist assessment is usually required.

Potentially reversible "dementias"
Commonest among these causes are alcohol and medication related dementia, depression induced cognitive impairment, surgical brain lesions such as normal pressure hydrocephalus [NPH], tumours and chronic subdural hematomas, metabolic disorders such as hypothyroidism, hypoparathyroidism, vitamin B12 deficiency and central nervous system (CNS) infections such as neurosyphilis and HIV

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Appendix 3: Anticholinergics and other drugs to use in caution with dementia[1]

Main drug interactions – List is not exhaustive see BNF or summary of product characteristics for full details.				
Interacting drugs	**Donepezil**	**Galantamine**	**Rivastigmine**	**Memantine**
Anticholinergics (antimuscarinics) e.g. procyclidine, oxybutinin See appendix 3 for full list	Potential antagonistic effect, monitor for reduced efficacy of either drug. Also may worsen the course of the illness			May worsen course of illness Effects may be enhanced
Cholinomimetics e.g. suxamethonium	Potential additive effect			No effect likely
NSAIDs e.g. ibuprofen, diclofenac	Increased risk of gastric irritation and GI bleed			No effect likely
Drugs slowing heart rate e.g digoxin, beta blockers	Potential additive effect, monitor for side effects (e.g. bradycardia)			No effect likely
CYP2D6 inhibitors e.g. paroxetine, fluoxetine, quinidine	Donepezil levels possibly increased*	Galantamine levels possibly increased*	No effect likely	No effect likely
CYP3A4 inhibitors e.g. erythromycin, ketoconazole	Donepezil levels possibly increased*	Galantamine levels possibly increased*	No effect likely	No effect likely
Inducers of CYP2D6 + CYP3A4 e.g. phenytoin, carbamazepine	Donepezil levels possibly reduced**	Galantamine levels possibly reduced **	No effect likely	Increased risk of convulsions
Concomitant use of N-methyl-D-aspartate (NMDA)-antagonists such as amantadine, ketamine or dextromethorphan	No effect likely	No effect likely	No effect likely	should be avoided as there is a risk of CNS toxicity
Levodopa, dopaminergic, agonists				Effects may be enhanced

*****Dose reduction not necessary unless side effects occur.
** Interaction may not be clinically significant, but should be considered if lack of efficacy occurs.
NB It is unlikely that any of the antidementia drugs at therapeutic doses will affect the metabolism of other medications. Always check SPC when prescribing

Click to go to start

Main anticholinergics and other drugs to use in caution with dementia.	
Drugs for bladder instability	Avoid if possible. If not, solifenacin is preferred Instead of tolterodine or oxybutynin
Antiemetics	Domperidone and ondansetron preferred to cyclizine, metoclopramide, prochlorperazine (and other phenothiazines).
Antihistamines	Avoid if possible. If not, loratadine and fexofenadine preferred to chlorpheniramine, promethazine, hydroxyzine
Tricyclics generally	Includes the very commonly used amitriptyline
Analgesics	Avoid tramadol and pethidine in particular
Sedation	All sedation to be used with caution – long-acting benzodiazepines and anti-psychotics especially

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Appendix 4: Drugs on the Anticholinergic Burden (ACB) scale

(A total ACB scale score of three or more is considered clinically relevant)

A large population-based study, in participants with normal or mildly impaired cognition, has shown that the use of medications with anticholinergic activity, increased the risk of cognitive decline (as measured by the MMSE) and increased the risk of mortality over 2 years, especially in the older adult population.

Further research is needed to confirm and extend these findings, in particular the effect on mortality of anticholinergic burden and of different doses of medicines with anticholinergic activity but the table below provides a useful guide to the anticholinergic burden (ACB) for a wide range of medication.

ACB Score 1 (mild)	ACB Score 2 (moderate)	ACB Score 3 (severe)
Alimemazine	Amantadine	Amitriptyline
Alprazolam	Belladonna alkaloids	Amoxapine
Alverine	Carbamazepine	Atropine
Atenolol	Cyclobenzaprine	Benztropine
Beclometasone dipropionate	Cyproheptadine	Chlorpheniramine
Bupropion hydrochloride	Loxapine	Chlorpromazine
Captopril	Meperidine	Clemastine
Chlorthalidone	Methotrimeprazine	Clomipramine
Cimetidine hydrochloride	Molindone	Clozapine
Clorazepate	Oxcarbazepine	Darifenacin
Codeine	Pethidine hydrochloride	Desipramine
Colchicine	Pimozide	Dicyclomine
Dextropropoxyphene		Diphenhydramine
Diazepam		Doxepin
Digoxin		Flavoxate
Dipyridamole		Hydroxyzine
Disopyramide phosphate		Hyoscyamine
Fentanyl		Imipramine
Fluvoxamine		Meclizine
Furosemide		Nortriptyline
Haloperidol		Orphenadrine
Hydralazine		Oxybutynin
Hydrocortisone		Paroxetine
Isosorbide preparations		Perphenazine
Loperamide		Procyclidine
Metoprolol		Promazine
Morphine		Promethazine
Nifedipine		Propentheline
Prednisone/Prednisolone		Pyrilamine
Quinidine		Scopolamine
Ranitidine		Thioridazine (withdrawn)
Theophylline		Tolterodine
Timolol maleate		Trifluoperazine
Trazodone		Trihexyphenidyl
Triamterene		Trimipramine
Warfarin		

Notes:1. Certain medicines eg Risperidone (mild ACB), Quetiapine (severe ACB) and Olanzapine (severe ACB) were licensed after 1990 and therefore not prescribed to the original CFAS cohort. 2. Brand names may conceal generic drug names. 3. Some combination medicines contain anticholinergic drugs. 4. This list is indicative and some related medicines were taken by patients in the CFAS study; if appropriate these related medicines were given an ACB score based on the ACB of the related medicine in the Aging Health publication

http://www.ncbi.nlm.nih.gov/pubmed/21707557. Anticholinergic Medication Use and Cognitive Impairment in the Older Population: The Medical Research Council Cognitive Function and Ageing Study. Chris Fox,_ MD,a Kathryn Richardson,_ MSc,b Ian D. Maidment, MA,cd George M. Savva, PhD, Fiona E. Matthews, PhD,f David Smithard, MD,gh Simon Coulton, MSc,d Cornelius Katona, MD

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MINI – ADDENBROOKE'S COGNITIVE EXAMINATION [Mini-ACE]
UK Version C (2014) Updated 25/05/2014

Name:	**Date of testing:** / /
Date of birth:	**Testers Name:**
Hospital No. or Address:	**Persons age at leaving full-time education**
	Occupation
	Handedness

ATTENTION

• **Ask:** What is the …?	**Day?**	**Date?**	**Month?**	**Year?**	**Attention [Score 0-4]**

MEMORY

• **Tell:** "I'm going to give you a name and address and I'd like you to repeat the name and address after me. So you have a chance to learn, we'll be doing that 3 times. I'll ask you the name and address later."

Memory [Score 0-7]

Score only the third trial.

	1st trial	2nd trial	3rd Trial
John Marshall			
24 Market Street			
Spilsby			
Lincolnshire			

FLUENCY – ANIMALS

• **Say:** "Now can you name as many animals as possible. It can begin with any letter. You have one minute. Go ahead."

Fluency [Score 0-7]

				Over 22	7
				17-21	6
				14-16	5
				11-13	4
				9-10	3
				7-8	2
				5-6	1
				Below 5	0
				Total correct	

CLOCK DRAWING	
• **Clock:** Ask the subject to draw a clock face with numbers and the hands at ten past five. (For scoring see instruction guide: circle = 1, numbers = 2, hands = 2 if all correct).	**Visuospatial [Score 0-5]**

MEMORY RECALL

- **Ask:** "Now tell me what you remember about that name and address we were repeating at the beginning".

John Marshall		**Memory [Score 0-7]**
24 Market Street		
Spilsby		
Lincolnshire		
TOTAL SCORE		**/30**

- Scoring ≤ 25/30 has both a high sensitivity and specificity.
- Scoring ≤ 21/30 is almost certainly a score to have come from a dementia patient.

Care needs to be taken in interpreting any score. Literacy, educational attainment, learning disability and specific learning difficulties will affect scores. Always sense-check a score, does it feel correct. Inappropriately low may be the result of poor engagement or high levels of anxiety and the test may have to be repeated. It is important not to jump to conclusions about the cognition score.

Click to go to start

Background -

1. Dementia Revealed What Primary Care Needs to Know Barrett E, Burns A. https://www.england.nhs.uk/wp-content/uploads/2014/09/dementia-revealed-toolkit.pdf accessed 5th Feb 2015

Coventry and Warwickshire Dementia Portal http://www.livingwellwithdementia.org/