

References: Normal Aging Changes

REF ID: 5868

Level I: Systematic Reviews

Topic 1: Risks

Arwert, L. I., Deijen, J. B., & Drent, M. L. (2005). The relation between insulin-like growth factor I levels and cognition in healthy elderly: A meta-analysis. *Growth Hormone & Igf Research, 15*(6), 416-422.

Journal Article. Meta-Analysis

OBJECTIVE: Insulin-like growth factor I (IGF-I) levels and cognitive functioning decrease with aging. Several studies report positive correlations between IGF-I levels and cognitive functioning in healthy elderly. However, because of controversial data no definitive conclusions can be drawn concerning the relation between IGF-I and cognition. Therefore, we carried out a meta-analysis on studies that report on the relation between IGF-I and cognition in healthy elderly. **DESIGN:** We searched the electronic databases for articles about IGF-I and cognition. Studies from 1985 to January 2005 are included. Two reviewers independently extracted data on study design and cognitive outcomes. Thirteen studies on IGF-I and cognition in elderly, with a total number of 1981 subjects, met the inclusion criteria. On the data from these studies meta-analyses were carried out by means of the program Comprehensive Meta-analysis using a random effects model. **RESULTS:** Pooled effects show that IGF-I levels in healthy elderly have a positive correlation with cognitive functioning, which appeared to be mainly measured with the mini mental state examination (MMSE). The effect size is 0.6, which indicates the presence of a large positive relationship between IGF and cognition in healthy elderly. **CONCLUSION:** These meta-analyses showed an overall relationship between IGF-I levels and cognitive functioning in healthy elderly. Further studies should be performed to clarify the role of IGF-I substitution in preserving cognitive functions with aging.

REF ID: 5481

Level I: Systematic Reviews

Topic 1: Risks

Bashore, T. R., & Ridderinkhof, K. R. (2002). Older age, traumatic brain injury, and cognitive slowing: Some convergent and divergent findings. *Psychological Bulletin, 128*(1), 151-198.

Journal Article. Meta-Analysis

Reaction time (RT) meta-analyses of cognitive slowing indicate that all stages of processing slow equivalently and task independently among both older adults (J. Cerella & S. Hale, 1994) and adults who have suffered a traumatic brain injury (TBI; F. R. Ferraro, 1996). However, meta-analyses using both RT and P300 latency have revealed stage-specific and task-dependent changes among older individuals (T. R. Bashore, K. R. Ridderinkhof, & M. W. van der Molen, 1998). Presented in this article are a meta-analysis of the effect of TBI on processing speed, assessed using P300 latency and RT, and a qualitative review of the literature. They suggest that TBI induces differential slowing. Similarities in the effects of older age and TBI on processing speed are discussed and suggestions for future research on TBI-induced cognitive slowing are offered.

REF ID: 5870

Level I: Systematic Reviews

Topic 1: Risks

Bopp, K. L., & Verhaeghen, P. (2005). Aging and verbal memory span: A meta-analysis. *Journals of Gerontology Series B-Psychological Sciences & Social Sciences, 60*(5), P223-33.

Journal Article. Meta-Analysis

Using Brinley plots, this meta-analysis provides a quantitative examination of age differences in eight verbal span tasks. The main conclusions are these: (a) there are age differences in all verbal span tasks; (b) the data support the conclusion that working memory span is more age sensitive than short-term memory span; and (c) there is a linear relationship between span of younger adults and span of older

adults. A linear model indicates the presence of three distinct functions, in increasing order of size of age effects: simple storage span; backward digit span; and working memory span.

REF ID: 5893

Level I: Systematic Reviews

Topic 4.1: Management-General; Topic 1: Risks; Topic 2: Prevention

Boyd, O. (2003). Optimisation of oxygenation and tissue perfusion in surgical patients. *Intensive & Critical Care Nursing*, 19(3), 171-181.

Journal Article, Research, Systematic Review, Tables/Charts

Surgical patients with limited cardiovascular reserve have much worse prognosis than patients with normal hearts. This review identifies 17 randomised controlled clinical trials that have investigated peri-operative therapy designed to increase tissue perfusion in surgical patients, many of whom have limited cardiovascular reserve. Although there are differences which make equating the trials complex, a total of 1974 patients have been enrolled in the studies and the odds ratio for reduction in mortality is 0.45 (95% confidence intervals 0.33-0.60). Further research needs to be undertaken in the identification of patients with limited cardiovascular reserve and for investigating proposed treatment strategies. Despite this, it appears that such patients have improved outcome if they are admitted to intensive care unit pre-operatively and have suitable therapy given to improve tissue oxygen delivery.

REF ID: 5912

Level I:

Topic 1: Risks

Calof, O. M., Singh, A. B., Lee, M. L., Kenny, A. M., Urban, R. J., & Tenover, J. L. et al. (2005). Adverse events associated with testosterone replacement in middle-aged and older men: A meta-analysis of randomized, placebo-controlled trials. *Journals of Gerontology: Series A: Biological Sciences and Medical Sciences*, 60A(11), 1451-1457.

Journal; Peer Reviewed Journal

Background: We performed a meta-analysis of randomized clinical trials to determine the risks of adverse events associated with testosterone replacement in older men. Methods: The MEDLINE database was searched from 1966 to April 2004, using testosterone as the indexing term; limits included human, male, ≥ 45 years old, and randomized controlled trial. Of the 417 studies thus identified, 19 met the inclusion criteria: testosterone replacement for at least 90 days, men ≥ 45 years old with low or low-normal testosterone level, randomized controlled trial, and medically stable men. Odds ratios (ORs) were pooled using a random effects model, assuming heterogeneous results across studies, and were weighted for sample size. Results: In the 19 studies that met eligibility criteria, 651 men were treated with testosterone and 433 with placebo. The combined rate of all prostate events was significantly greater in testosterone-treated men than in placebo-treated men (OR= 1.78, 95% confidence interval [CI], 1.07-2.95). Rates of prostate cancer, prostate-specific antigen (PSA) >4 ng/ml, and prostate biopsies were numerically higher in the testosterone group than in the placebo group, although differences between the groups were not individually statistically significant. Testosterone-treated men were nearly four times as likely to have hematocrit $>50\%$ as placebo-treated men (OR = 3.69, 95% CI, 1.82-7.51). The frequency of cardiovascular events, sleep apnea or death was not significantly different between the two groups. Conclusions: Testosterone replacement in older men was associated with a significantly higher risk of detection of prostate events and of hematocrit $>50\%$ than was placebo; hematocrit increase was the most frequent adverse event associated with testosterone replacement. These data reaffirm the need to monitor hematocrit, PSA, and digital examination of the prostate during testosterone replacement in older men. (PsycINFO Database Record (c) 2006 APA, all rights reserved) (journal abstract)

REF ID: 1685

Level I: Systematic Reviews

Topic 2: Prevention

Carter, N. D., Kannus, P., & Khan, K. M. (2001). Exercise in the prevention of falls in older people: A systematic literature review examining the rationale and the evidence. *Sports Medicine*,

31(6), 427-438.

Journal Article, Research, Systematic Review, Tables/Charts

Falls are a major source of death and injury in elderly people. For example, they cause 90% of hip fractures and the current cost of hip fractures in the US is estimated to be about 10 billion dollars. Age-related changes in the physiological systems (somatosensory, vestibular and visual) which contribute to the maintenance of balance are well documented in older adults. These changes coupled with age-related changes in muscle and bone are likely to contribute to an increased risk of falls in this population. The integrated rehabilitation-based model of fall risk factors reveals multiple sites for interventions that may reverse fall risk factors. Regular exercise may be one way of preventing falls and fall-related fractures. The evidence for this contention comes from a variety of sources. On the basis of 9 randomised controlled studies conducted since 1996, exercise appears to be a useful tool in fall prevention in older adults, significantly reducing the incidence of falls compared with control groups. However, current limitations such as inconsistencies in the measurement of key dependent and independent variables do not, at present, permit a meta-analysis of intervention trials. Further investigation, using trials designed with the current limitations in mind, is necessary to establish the optimum exercise programme to maximise fall prevention in older adults.

REF ID: 5918

Level I:

Topic 1: Risks

Charter, R. A., & Alekoumbides, A. (2004). Evidence for aging as the cause of alzheimer's disease. *Psychological Reports, 95*(3,Part1), 935-945.

Journal; Peer Reviewed Journal

Part 1 presents the results of a meta-analytic study on the effects of aging on intelligence. Analysis of a total of 20 longitudinal samples shows that most of the intelligence scores rose before the age of 50 and fell at a progressively increasing rate after the age of 50. An equation describing this rise and fall in intelligence was derived. Part 2 shows the relationship between the predicted prevalence of Alzheimer's disease (from the equation derived in Part 1) and the prevalence of the disease obtained from 10 studies. The predictive curve fit so well with the observed prevalence data that the results can be interpreted as evidence that Alzheimer's is a manifestation of aging. (PsycINFO Database Record (c) 2006 APA, all rights reserved) (journal abstract)

REF ID: 5871

Level I: Systematic Reviews

Topic 1: Risks ; Topic 2: Prevention

Clay, O. J., Wadley, V. G., Edwards, J. D., Roth, D. L., Roenker, D. L., & Ball, K. K. (2005). Cumulative meta-analysis of the relationship between useful field of view and driving performance in older adults: Current and future implications. *Optometry & Vision Science, 82*(8), 724-731.

Journal Article. Meta-Analysis

PURPOSE: Driving is a complex behavior that requires the utilization of a wide range of individual abilities. Identifying assessments that not only capture individual differences, but also are related to older adults' driving performance would be beneficial. This investigation examines the relationship between the Useful Field of View (UFOV) assessment and objective measures of retrospective or concurrent driving performance, including state-recorded accidents, on-road driving, and driving simulator performance. **METHOD:** The PubMed and PsycINFO databases were searched to retrieve eight studies that reported bivariate relationships between UFOV and these objective driving measures. Cumulative meta-analysis techniques were used to combine the effect sizes in an attempt to determine whether the strength of the relationship was stable across studies and to assess whether a sufficient number of studies have been conducted to validate the relationship between UFOV and driving performance. **RESULTS:** A within-group homogeneity of effect sizes test revealed that the samples could be thought of as being drawn from the same population, $Q [7] = 11.29$, p (one-tailed) = 0.13. Therefore, the effect sizes of eight studies were combined for the present cumulative meta-analysis. The

weighted mean effect size across the studies revealed a large effect (Cohen's $d = 0.945$), with poorer UFOV performance associated with negative driving outcomes. This relationship was robust across multiple indices of driving performance and several research laboratories. **CONCLUSIONS:** This convergence of evidence across numerous studies using different methodologies confirms the importance of the UFOV assessment as a valid and reliable index of driving performance and safety. Recent prospective studies have confirmed a relationship between UFOV performance and future crashes, further supporting the use of this instrument as a potential screening measure for at-risk older drivers.

REF ID: 5882

Level I: Systematic Reviews

Topic 2: Prevention

Colcombe, S., & Kramer, A. F. (2003). Fitness effects on the cognitive function of older adults: A meta-analytic study. *Psychological Science, 14*(2), 125-130.

Journal Article. Meta-Analysis

A meta-analytic study was conducted to examine the hypothesis that aerobic fitness training enhances the cognitive vitality of healthy but sedentary older adults. Eighteen intervention studies published between 1966 and 2001 were entered into the analysis. Several theoretically and practically important results were obtained. Most important fitness training was found to have robust but selective benefits for cognition, with the largest fitness-induced benefits occurring for executive-control processes. The magnitude of fitness effects on cognition was also moderated by a number of programmatic and methodological factors, including the length of the fitness-training intervention, the type of the intervention, the duration of training sessions, and the gender of the study participants. The results are discussed in terms of recent neuroscientific and psychological data that indicate cognitive and neural plasticity is maintained throughout the life span.

REF ID: 5900

Level I: Systematic Reviews

Topic 2: Prevention

Conn, V. S., Minor, Burks, K. J., Rantz, M. J., & Pomeroy, S. H. (2003). Integrative review of physical activity intervention research with aging adults. *Journal of the American Geriatrics Society, 51*(8), 1159-1168.

Journal Article, Research, Systematic Review, Tables/Charts

This paper reviews randomized, controlled trials (RCTs) that have attempted to increase physical activity behavior by aging adults. A systematic review was necessary because numerous studies target older adults, and previous reviews have addressed a limited range of primary studies. Computerized database, ancestry, and extensive search strategies by authors of research reported in English between 1960 and 2000 located diverse intervention trials. RCTs reporting endurance physical activity or exercise behavioral outcomes for at least five subjects were included. Integrative review methods were used to summarize extant research. Forty-two studies were retrieved. Seventeen RCTs with 6,391 subjects were reviewed. A wide variety of intervention strategies were reported. The most common interventions were self-monitoring, general health education, goal setting, supervised center-based exercise, problem solving, feedback, reinforcement, and relapse prevention education. Few studies individually adapted motivational interventions, used mediated intervention delivery, or integrated multiple theoretical frameworks into the intervention. Links between individual intervention components and effectiveness were not clear. Common methodological weaknesses included small samples, untested outcome measures, and time-limited longitudinal designs. Significant numbers of aging adults increased their physical activity in response to experimental interventions. The amount of increased activity rarely equaled accepted behavior standards to achieve positive health outcomes. Further work is essential to identify successful strategies to increase activity by larger numbers of elders and to accelerate the increase in activity by those who change activity behaviors. Sex and ethnic differences need further investigation. There is a vital need for rigorously designed studies to contribute to this science. PMID: 12890083 [PubMed - indexed for MEDLINE]

REF ID: 5883

Level I: Systematic Reviews

Topic 6: Comprehensive

Conn, V. S., Valentine, J. C., & Cooper, H. M. (2002). Interventions to increase physical activity among aging adults: A meta-analysis. *Annals of Behavioral Medicine, 24*(3), 190-200.

Journal Article. Meta-Analysis. Review

OBJECTIVES: This review applied meta-analytic procedures to integrate primary research findings that test interventions to increase activity among aging adults. **METHODS:** We performed extensive literature searching strategies and located published and unpublished intervention studies that measured the activity behavior of at least five participants with a mean age of 60 years or greater. Primary study results were coded, and meta-analytic procedures were conducted. **RESULTS:** The overall effect size, weighted by sample size, was $d(w) = .26 \pm .05$. Effect sizes were larger when interventions targeted only activity behavior, excluded general health education, incorporated self-monitoring, used center-based exercise, recommended moderate intensity activity, were delivered in groups, used intense contact between interventionists and participants, and targeted patient populations. Effect sizes were larger for studies that measured exercise duration and studies with a time interval of less than 90 days between intervention and behavior measurement. **CONCLUSIONS:** These findings suggest that group-delivered interventions should encourage moderate activity, incorporate self-monitoring, target only activity, and encourage center-based activity. Findings also suggest that patient populations may be especially receptive to activity interventions. Primary research testing interventions in randomized trials to confirm causal relationships would be constructive. [References: 69]

REF ID: 5890

Level I: Systematic Reviews

Topic 1: Risks ;Topic 3: Assessment

Dalby, P. (2006). Is there a process of spiritual change or development associated with ageing? A critical review of research. *Aging & Mental Health, 10*(1), 4-12.

Journal Article, Research, Systematic Review, Tables/Charts

This review considers whether research shows a process of spiritual change or development associated with ageing. Spirituality was understood as that which is central to a sense of meaning and purpose in an individual's life and pertains to the sacred or transcendent. Electronic literature searches were conducted to find research published 1985-2003 aimed at understanding spiritual change, themes and tasks in later life. A total of 13 studies were reviewed that looked at changes in spirituality over time, spiritual themes and tasks in a lifespan development context and Tornstam's (Tornstam, L. (1996). Gerotranscendence--a theory about maturing into old age. *Journal of Aging & Identity, 1*, 37-50) theory of gerotranscendence. The research reviewed suggested that some aspects of spirituality remain stable into old age but that there are identifiable spiritual tasks, needs and changes associated with ageing. Some common spiritual themes identified across the research were integrity, humanistic concern, changing relationships with others and concern for younger generations, relationship with a transcendent being or power, self transcendence, and coming to terms with death. These were not related to age per se, but to some of the challenges that age presents, and were mediated by cultural factors and individual differences. The findings and their limitations were discussed.

REF ID: 5867

Level I: Systematic Reviews

Topic 1: Risks

Depp, C. A., & Jeste, D. V. (2006). Definitions and predictors of successful aging: A comprehensive review of larger quantitative studies. *American Journal of Geriatric Psychiatry, 14*(1), 6-20.

Journal Article. Meta-Analysis

OBJECTIVE: There is no consensual definition of "successful aging." Our aim was to review the literature on proportions of subjects meeting criteria and individual components of definitions of successful aging as well as correlates of these definitions. **METHODS:** We conducted a literature search

for published English-language peer-reviewed reports of data-based studies of adults over age 60 that included an operationalized definition of successful aging. The authors categorized the components of these definitions and independent variables examined in relation to successful aging (e.g., gender, education, and social contacts). RESULTS: The authors identified 28 studies with 29 different definitions that met our criteria. Most investigations used large samples of community-dwelling older adults. The mean reported proportion of successful agers was 35.8% (standard deviation: 19.8) but varied widely (interquartile range: 31%). Multiple components of these definitions were identified, although 26 of 29 included disability/physical functioning. The most frequent significant correlates of the various definitions of successful aging were age (young-old), nonsmoking, and absence of disability, arthritis, and diabetes. Moderate support was found for greater physical activity, more social contacts, better self-rated health, absence of depression and cognitive impairment, and fewer medical conditions. Gender, income, education, and marital status generally did not relate to successful aging. CONCLUSION: Despite variability among definitions, approximately one-third of elderly individuals were classified as aging successfully. The majority of these definitions were based on the absence of disability with lesser inclusion of psychosocial variables. Predictors of successful aging varied yet point to several potentially modifiable targets for increasing the likelihood of successful aging.

REF ID: 5905

OM: Quality Measures

Topic 5: Evaluation/Follow-up

Diehr, P., & Patrick, D. L. (2003). Trajectories of health for older adults over time: Accounting fully for death. *Annals of Internal Medicine*, 139(5 part 2): Suppl), 416-420.

Journal Article, Research, Tables/Charts

The process of healthy aging can best be described by plotting the trajectory of health-related variables over time. Unfortunately, graphs including data only from survivors may be misleading because they may confuse patterns of mortality with patterns of change in health. Two approaches for creating graphs that account for death in such situations are 1) to incorporate a category or value for death into the longitudinal health variable and 2) to measure time in years before death or some other event. The first approach has been applied to self-rated health (excellent to poor) and the 36-Item Short-Form Health Survey (SF-36). It allows for flexible and interpretable analyses and may be appropriate for other variables as well. The second approach also accounts fully for death, but the questions it can address are limited. Both approaches are useful and should be used at a minimum for supporting analyses in longitudinal studies in which persons die during observation.

REF ID: 5956

Level I:

Topic 1: Risks; Topic 3: Assessment

Faraone, S. V., Biederman, J., & Mick, E. (2006). The age-dependent decline of attention deficit hyperactivity disorder: A meta-analysis of follow-up studies. *Psychological Medicine*, 36(2), 159-165.

Journal; Peer Reviewed Journal

Background: This study examined the persistence of attention deficit hyperactivity disorder (ADHD) into adulthood. Method: We analyzed data from published follow-up studies of ADHD. To be included in the analysis, these additional studies had to meet the following criteria: the study included a control group and it was clear from the methods if the diagnosis of ADHD included subjects who did not meet full criteria but showed residual and impairing signs of the disorder. We used a meta-analysis regression model to separately assess the syndromic and symptomatic persistence of ADHD. Results: When we define only those meeting full criteria for ADHD as having 'persistent ADHD', the rate of persistence is low, ~15% at age 25 years. But when we include cases consistent with DSM-IV's definition of ADHD in partial remission, the rate of persistence is much higher, ~65%. Conclusions: Our results show that estimates of ADHD's persistence rely heavily on how one defines persistence. Yet, regardless of definition, our analyses show that evidence for ADHD lessens with age. More work is needed to determine if this reflects true remission of ADHD symptoms or is due to the developmental insensitivity

of diagnostic criteria for the disorder. (PsycINFO Database Record (c) 2006 APA, all rights reserved)
(journal abstract)

REF ID: 5903

Level II: Individual experimental study

Topic 2: Prevention

Fielding, R. A., LeBrasseur, N. K., Cuoco, A., Bean, J., Mizer, K., & Singh, M. A. F. (2002). High-velocity resistance training increases skeletal muscle peak power in older women. *Journal of the American Geriatrics Society, 50(4), 655-662.*

Journal Article, Clinical Trial, Research, Tables/Charts

OBJECTIVES: Peak power declines more precipitously than strength with advancing age and is a reliable measure of impairment and a strong predictor of functional performance. We tested the hypothesis that a high-velocity resistance-training program (HI) would increase muscle power more than a traditional low-velocity resistance-training program (LO). **DESIGN:** Randomized controlled trial. **SETTING:** University-based human physiology laboratory. **PARTICIPANTS:** Thirty women with self-reported disability (aged 73 + 1, body mass index 30.1 + 1.1 kg/mn). **INTERVENTION:** We conducted a randomized trial comparing changes in skeletal muscle power and strength after 16 weeks of HI or LO. Training was performed three times per week, and subjects completed three sets (8-10 repetitions) of leg press (LP) and knee extension (KE) exercises at 70% of the one-repetition maximum (IRM). **MEASUREMENTS:** One-repetition maximum (1 RM) and peak power for KE and LP. **RESULTS:** LP and KE relative training force and total work were similar between groups ($P > .05$). However, HI generated significantly higher power during training sessions than LO for LP (3.7-fold greater, $P < .001$) and KE (2.1-fold greater, $P < .001$). Although LP and KE 1RM muscle strength increased similarly in both groups as a result of the training ($P < .001$), LP peak power increased significantly more in HI than in LO (267 W vs 139 W, $P < .001$). Furthermore, HI resulted in a significantly greater improvement in LP power at 40%, 50%, 60%, 70%, 80%, and 90% of the 1 RM than did LO ($P < .05$). **CONCLUSIONS:** HI improved 1RM strength similarly and was more effective in improving peak power than was traditional LO in older women. Improvements in lower extremity peak power may exert a greater influence on age-associated reductions in physical functioning than other exercise interventions.

REF ID: 5897

Level I: Systematic Reviews

Topic 4.1: Management-General

Floyd, J. A. (2002). Sleep and aging. *Nursing Clinics of North America, 37(4), 719-731.*

Journal Article, Research, Systematic Review, Tables/Charts

Synthesis of studies of sleep and aging show major increases occur in nighttime awakening and major decreases occur in sleep depth over the life span. Fatigue and drowsiness during the day, with increased napping, and earlier bedtimes, are also prevalent in the elderly. Interventions that impact these sleep variables, as well as sleep variables that change less dramatically, are needed. All indications are that the promotion of restorative sleep and daytime well-being in older adults will continue to be an important part of nursing practice affecting even more people as the population ages. Although nurses have only begun to identify and study interventions that promote sleep in nursing environments, nursing is in a position to make major contributions to the health and well-being of older adults who experience sleep disruption, especially sleep disruptions secondary to illness and aging. Copyright (C) 2002 by Elsevier Science (USA).

REF ID: 5922

Level I:

Topic 1: Risks

Henry, J. D., MacLeod, M. S., Phillips, L. H., & Crawford, J. R. (2004). A meta-analytic review of prospective memory and aging. *Psychology and Aging, 19(1), 27-39.*

Journal; Peer Reviewed Journal

A meta-analysis of prospective memory (PM) studies revealed that in laboratory settings younger participants outperform older participants on tests of both time- and event-based PM ($r_s = -.39$ and $-.34$,

respectively). Event-based PM tasks that impose higher levels of controlled strategic demand are associated with significantly larger age effects than event-based PM tasks that are supported by relatively more automatic processes ($r_s = -.40$ vs. $-.14$, respectively). However, contrary to the prevailing view in the literature, retrospective memory as measured by free recall is associated with significantly greater age-related decline ($r = -.52$) than PM, and older participants perform substantially better than their younger counterparts in naturalistic PM studies ($r_s = .35$ and $.52$ for event- and time-based PM, respectively). (PsycINFO Database Record (c) 2006 APA, all rights reserved) (journal abstract)

REF ID: 5891

Level I: Systematic Reviews

Topic 1: Risks

Holman, C., Meyer, J., & Cotter, A. (2004). The complexity of loss in continuing care institutions for older people: A review of the literature. *Illness, Crisis & Loss*, 12(1), 38-51.

Journal Article, Research, Systematic Review

This article analyzes the findings of a literature review undertaken on loss in continuing care institutions. It suggests that research undertaken in continuing care institutions, such as care homes, ignores the complexity and multiplicity of loss, depending on the methodological approach taken (e.g., qualitative field methods, survey research and intervention studies). It argues that different methodological approaches fragment and hide some aspect of loss in these settings. For instance, some methods capture the individual emotional component, while others focus solely on the social dynamic. This fragmentation and hiding of aspects of loss makes research findings of limited value to those working in practice. The article concludes that future studies need to be aware of these tendencies, in order to uncover new meanings of loss more appropriate to the continuing care setting.

REF ID: 5911

Level I:

Topic 4.1: Management-General

Irwin, M. R., Cole, J. C., & Nicassio, P. M. (2006). Comparative meta-analysis of behavioral interventions for insomnia and their efficacy in middle-aged adults and in older adults 55+ years of age. *Health Psychology*, 25(1), 3-14.

Journal; Peer Reviewed Journal

Meta-analyses support the effectiveness of behavioral interventions for the treatment of insomnia, although few have systematically evaluated the relative efficacy of different treatment modalities or the relation of old age to sleep outcomes. In this meta-analysis of randomized controlled trials ($k = 23$), moderate to large effects of behavioral treatments on subjective sleep outcomes were found. Evaluation of the moderating effects of behavioral intervention type (i.e., cognitive-behavioral treatment, relaxation, behavioral only) revealed similar effects for the 3 treatment modalities. Both middle-aged adults and persons older than 55 years of age showed similar robust improvements in sleep quality, sleep latency, and wakening after sleep onset. A research agenda is recommended to examine the mechanisms of action of behavioral treatments on sleep with increased attention to the high prevalence of insomnia in older individuals. (PsycINFO Database Record (c) 2006 APA, all rights reserved) (journal abstract)

REF ID: 5869

Level I: Systematic Reviews

Topic 4.3: Management-Medication

Isidori, A. M., Giannetta, E., Gianfrilli, D., Greco, E. A., Bonifacio, V., & Aversa, A. et al. (2005). Effects of testosterone on sexual function in men: Results of a meta-analysis.[see comment]. *Clinical Endocrinology*, 63(4), 381-394.

Journal Article. Meta-Analysis. Review

OBJECTIVES: The role of androgen decline in the sexual activity of adult males is controversial. To clarify whether sexual function would benefit from testosterone (T) treatment in men with partially or severely reduced serum T levels, we conducted a systematic review and meta-analysis of placebo-controlled studies published in the past 30 years. The aim of this study was to assess and compare the

effects of T on the different domains of sexual life. DATA SOURCE: A comprehensive search of all published randomized clinical trials was performed in MEDLINE, the Cochrane Library, EMBASE and Current Contents databases. REVIEW METHODS: Guided by prespecified criteria, software-assisted data abstraction and quality assessed by two independent reviewers, a total of 17 randomized placebo-controlled trials were found to be eligible. For each domain of sexual function we calculated the standardized mean difference relative to T and reported the results of pooled estimates of T treatment using the random effect model of meta-analysis. Heterogeneity, reproducibility and consistency of the findings across studies were explored using sensitivity and meta-regression analysis. RESULTS: Overall, 656 subjects were evaluated: 284 were randomized to T, 284 to placebo (P) and 88 treated in cross-over. The median study length was 3 months (range 1-36 months). Our meta-analysis showed that in men with an average T level at baseline below 12 nmol/l, T treatment moderately improved the number of nocturnal erections, sexual thoughts and motivation, number of successful intercourses, scores of erectile function and overall sexual satisfaction, whereas T had no effect on erectile function in eugonadal men compared to placebo. Heterogeneity was explored by grouping studies according to the characteristics of the study population. A cut-off value of 10 nmol/l for the mean T of the study population failed to predict the effect of treatment, whereas the presence of risk factors for vasculogenic erectile dysfunction (ED), comorbidities and shorter evaluation periods were associated with greater treatment effects in the studies performed in hypogonadal, but not in eugonadal, men. Meta-regression analysis showed that the effects of T on erectile function, but not libido, were inversely related to the mean baseline T concentration. The meta-analysis of available studies indicates that T treatment might be useful for improving vasculogenic ED in selected subjects with low or low-normal T levels. The evidence for a beneficial effect of T treatment on erectile function should be tempered with the caveats that the effect tends to decline over time, is progressively smaller with increasing baseline T levels, and long-term safety data are not available. The present meta-analysis highlights the need, and pitfalls, for large-scale, long-term, randomized controlled trials to formally investigate the efficacy of T replacement in symptomatic middle-aged and elderly men with reduced T levels and ED. [References: 92]

REF ID: 5924

Level I:

Topic 1: Risks

Johnson, R. E. (2003). Aging and the remembering of text. *Developmental Review, 23*(3), 261-346. Journal; Peer Reviewed Journal

A meta-analysis was performed on the published research literature comparing younger and older adults on their learning and retention of text. A total of 194 studies were located, and 1385 effect sizes were computed. Statistical tests then were performed on subclassifications of variables that were hypothesized to be associated with age differences. A statistically significant age deficit was evident in all comparisons and subclassifications. However, the size of the age difference varied as a function of the nature of the learners being compared, the nature of the text passages, the instructions provided to learners, procedural variables at the time of presentation of the texts, procedural variables at the time of testing, and the nature of the scoring procedures. (PsycINFO Database Record (c) 2006 APA, all rights reserved) (journal abstract)

REF ID: 5915

Level I:

Topic 1: Risks ;Topic 3: Assessment

Kite, M. E., Stockdale, G. D., Whitley, B. E. J., & Johnson, B. T. (2005). Attitudes toward younger and older adults: An updated meta-analytic review. *Journal of Social Issues, 61*(2), 241-266. Journal; Peer Reviewed Journal

This meta-analytic review of 232 effect sizes showed that, across five categories, attitudes were more negative toward older than younger adults. Perceived age differences were largest for age stereotypes and smallest for evaluations. As predicted by social role theory (Eagly, 1987), effect sizes were reduced when detailed information was provided about the person being rated. The double standard of aging emerged for evaluations and behavior/behavioral intentions, but was reversed for the competence

category. Perceptions depended on respondent age also. Results demonstrated both the multi-dimensionality and the complexity of attitudes toward older adults (Hummert, 1999; Kite & Wagner, 2002). (PsycINFO Database Record (c) 2006 APA, all rights reserved) (journal abstract)

REF ID: 5909

QM: Quality Measures

Topic 5: Evaluation/Follow-up

Krassie, J., & Roberts, D. C. (2001). The independent older Australian: Implications for food and nutrition recommendations. *Journal of Nutrition, Health & Aging*, 5(1), 11-16.

Journal Article

The World Health Organisation has restructured their program for health and the elderly, renaming it Aging and Health, focussing on aging as a part of life rather than a static age group separated from the rest of the population. As the older population becomes more heterogeneous, nutrition and food service providers in the community are faced with new challenges. This paper presents nutrition recommendations relevant to community nutrition programs in Australia including the recently released Dietary Guidelines for Older Australians. The subsequent discussion focuses on issues associated with implementation of community based food and nutrition intervention programs. The following strategies for successful implementation of community based food and nutrition programs were identified: Meals on Wheels services. 1. should maintain a register of food service systems for each site to assist in the planning process. 2. Develop a procedure for the nutritional assessment of menus focussing on a standardised methodology and recipes as well as ensuring trained staff are available to apply the procedure. 3. Validate recommended serving sizes and recommend serving utensils for specific menu items. Provide advice on the purchasing, use and calibration of scales as well as containers. 4. Develop alternative, informal methods of assessing client satisfaction to ensure the clients' experience with the service, rather than their reaction to the experience, be assessed. 5. Develop a management training program which focuses on a "train-the-trainer" strategy to ensure continuous, on-site training. Meeting the nutritional needs of the heterogeneous group of older people implies a modified approach to nutritional support. All those involved in community nutrition organisations need to recognise the significance of the "caring" role as well as that of food provider and the impact of this on the nutritional status of the client. The development of consistent guidelines and tools will assist organisations in meeting the needs of their target groups. As professionals we need to understand and accept the constraints that these organisations deal with to ensure the services we provide are appropriate. These constraints include all of those issues detailed in this paper - production capability, training resources and the availability of volunteers.

REF ID: 5898

Level I: Systematic Reviews

Topic 3: Assessment

Leenerts, M. H., Teel, C. S., & Pendleton, M. K. (2002). Building a model of self-care for health promotion in aging. *Journal of Nursing Scholarship*, 34(4), 355-361.

Journal Article, Research, Systematic Review, Tables/Charts

PURPOSE: To synthesize knowledge about self-care in older community-dwelling people, identify essential dimensions of self-care related to health promotion and well-being in aging, and organize the findings into a literature-based, integrated model with applicability in practice, research, and education. **ORGANIZING CONSTRUCT:** Self-care and health promotion. Related concepts included self-concept, self-care ability, and self-care activity. **METHODS:** These terms were used to search Medline, CINAHL, and PsycINFO data bases. Theoretical and research articles from the last decade that related to self-care and health promotion in community-dwelling elders and that provided recommendations for education and practice were selected for inclusion in the analysis. **FINDINGS:** Self-care for health promotion in independent elders is multidimensional. Synthesis of literature findings resulted in development of the model of Self-care for Health Promotion in Aging, with five dimensions: internal and external environment, self-care ability, education, self-care activity, and outcomes. Examples of education plans that are developed in partnership with clients to promote better health and maximize

quality of life are presented. CONCLUSIONS: Findings from current theoretical and empirical literature were synthesized to develop a model of self-care for health promotion in aging. Suggestions are made regarding application of the model in clinical practice and further theory building and hypothesis testing.

REF ID: 5895

Level I: Systematic Reviews

Topic 4.2: Management-Behavior Therapy

Lin, Y., Dai, Y., & Hwang, S. (2003). The effect of reminiscence on the elderly population: A systematic review. *Public Health Nursing, 20(4), 297-306.*

Journal Article, Research, Systematic Review, Tables/Charts

Reminiscence therapy is an independent nursing intervention that may be helpful in maintaining or improving self-esteem and life satisfaction for the elderly, but the effects of reminiscence therapy are difficult to measure. For a greater understanding of reminiscence as a nursing therapeutic, this article reviewed the developmental history and theoretical basis of reminiscence and evaluated the empirical evidence concerning the use and effectiveness of reminiscence in the elderly. A lack of consistent research findings resulted from selecting different therapeutic goals, different types of reminiscence, different dependent measures, different data collection tools, different sample populations, and small sample size. Future nursing research should redefine the concept and attempt to standardize the measurement of reminiscence and then forge ahead using rigorous research designs to develop a body of knowledge regarding reminiscence.

REF ID: 5902

Level IV: Non-experimental study

Topic 1: Risks

Maguire, E. A., & Frith, C. D. (2003). Aging affects the engagement of the hippocampus during autobiographical memory retrieval. *Brain, 126(Part 7), 1511-1523.*

Journal Article, Clinical Trial, Diagnostic Images, Research, Tables/Charts

Surprisingly little is known about the neural correlates of remembering real life events in the context of normal aging. We therefore asked young and older adults to retrieve real life autobiographical event memories accrued over decades, while their brains were scanned using functional MRI. There were many commonalities between the groups in the wider network of brain areas active during retrieval. Nevertheless, one key difference emerged; while left hippocampal activation was apparent in the young, bilateral hippocampal activation was evident in older adults and direct comparison between the groups confirmed significantly greater right hippocampal activation in older adults. Notably, this difference was specific to autobiographical event memory retrieval, as the groups were comparable in the areas active during semantic memory retrieval. The present findings show that even when stimuli, tasks and performance appear indistinguishable between young and older adults, neural changes occur in aging with specificity in both the memory type and the brain regions affected. In particular, the results reveal that age-related effects are detectable in the hippocampus. This highlights the need to consider how the dynamic course of normal aging interacts with pathological processes that might also affect the hippocampus. Understanding this relationship may aid prognosis, as well as providing insights into plasticity in the anatomy of memory.

REF ID: 5907

QM: Quality Measures

Topic 5: Evaluation/Follow-up

Marek, K. D., & Rantz, M. J. (2000). Aging in place: A new model for long-term care. *Nursing Administration Quarterly, 24(3), 1-11.*

Journal Article

It is expected that at least 40 percent of the population over 75 will need extensive health care services late in their lives. The public has a negative view of nursing home placement that has, to some extent, been confirmed by research finding that the health of a frail older person deteriorates each time he or she is moved. The Aging in Place model of care for the elderly offers care coordination (case management) and health care services to older adults so they will not have to move from one level of

care delivery to another as their health care needs increase. University Nurses Senior Care (UNSC) is the service entity of this project and provides as its core service care coordination with a variety of service options. These options include care packages or services at an hourly rate to meet individual client needs. The Aging in Place project will be evaluated by comparing project clients to residents of similar acuity in nursing homes and to similar clients receiving standard community support services. Data from this project will be important to consumers, researchers, providers, insurers, and policy makers. Copyright (C) 2000 by Aspen Publishers, Inc.

REF ID: 1900

Level I: Systematic Reviews

Topic 6: Comprehensive

MarkleReid, M., & Browne, G. (2003). Conceptualizations of frailty in relation to older adults. *Journal of Advanced Nursing*, 44(1), 58-68.

Journal Article, Research, Systematic Review, Tables/Charts

AIM: The aim of this article is to discuss the concept of frailty and its adequacy in identifying and describing older adults as frail. BACKGROUND: Despite the dramatic increase in use of the term 'frailty' over the past two decades, there is a lack of consensus in the literature about its meaning and use, and no clear conceptual guidelines for identifying and describing older adults as frail. Differences in theoretical perspectives will influence policy decisions regarding eligibility for, and allocation of, scarce health care resources among older adults. METHOD: The article presents a literature review and synthesis of definitions and conceptual models of frailty in relation to older adults. The first part of the paper is a summary of the synonyms, antonyms and definitions of the term frailty. The second part is a critical evaluation of conceptual models of frailty. Six conceptual models are analysed on the basis of four main categories of assumptions about: (1) the nature of scientific knowledge; (2) the level of analysis; (3) the ageing process; (4) the stability of frailty. The implications of these are discussed in relation to clinical practice, policy and research. CONCLUSION: The review gives guidelines for a new theoretical approach to the concept of frailty in older adults: (1) it must be a multidimensional concept that considers the complex interplay of physical, psychological, social and environmental factors; (2) the concept must not be age-related, suggesting a negative and stereotypical view of ageing; (3) the concept must take into account an individual's context and incorporate subjective perceptions; (4) the concept must take into account the contribution of both individual and environmental factors.

REF ID: 5873

Level I: Systematic Reviews

Topic 1: Risks Topic 2: Prevention

Martin, R. M., Gunnell, D., & Smith, G. D. (2005). Breastfeeding in infancy and blood pressure in later life: Systematic review and meta-analysis. *American Journal of Epidemiology*, 161(1), 15-26.

Journal Article. Meta-Analysis

The influence of breastfeeding on blood pressure in later life is uncertain. The authors conducted a systematic review of published studies from which estimates of a mean difference (standard error) in blood pressure between breastfed and bottle-fed subjects could be derived. They searched MEDLINE and Excerpta Medica (EMBASE) bibliographic databases, which was supplemented by manual searches of reference lists. Fifteen studies (17 observations) including 17,503 subjects were summarized. Systolic blood pressure was lower in breastfed compared with bottle-fed infants (pooled difference: -1.4 mmHg, 95% confidence interval (CI): -2.2, -0.6), but evidence of heterogeneity between study estimates was evident ($\chi^2(16) = 42.0$, $p < 0.001$) studies (-0.6 mmHg, 95% CI: -1.2, 0.02) compared with smaller ($n < 1,000$) studies (-2.3 mmHg, 95% CI: -3.7, -0.9) (p for difference in pooled estimates = 0.02). A small reduction in diastolic blood pressure was associated with breastfeeding (pooled difference: -0.5 mmHg, 95% CI: -0.9, -0.04), which was independent of study size. If causal, the small reduction in blood pressure associated with breastfeeding could confer important benefits on cardiovascular health at a population level. Understanding the mechanism underlying this association may provide insights into pathways linking early life exposures with health in adulthood.

REF ID: 5933

Level VI: Opinion

Topic 3: Assessment

Messecar, D. C. (2002). Older people perceived health as going and doing something meaningful. *Evidence-Based Nursing*, 5(3), 96.

Journal Article, Abstract, Commentary

critique of: Bryant LL, Corbett KK, Kutner JS. In their own words: a model of **healthy aging**. *SOC SCI MED* 2001 Oct; 53(7): 927-41

QUESTION: What constitutes and contributes to the health of older people? Design Grounded theory type analysis. Setting Healthcare facilities of a group practice health maintenance organisation in the US. Participants 22 older individuals who were randomly selected from those whose reported perceived health differed from that predicted by a regression model constructed from data from a randomised trial of a primary care intervention. Methods Semistructured interviews lasted approximately 45 minutes and took place in participants' homes or in healthcare facilities. Questions targeted perceptions of health; wellbeing; valued abilities, activities, and relationships; social support; control; sense of coherence; and personal outlook. Analysis of the interviews employed grounded theory type immersion into the material. This process led to the identification of a central phenomenon and the relation of other factors with it. Main findings For these older individuals, health meant going and doing something meaningful. Going meant more than mobility and doing meant more than physical function. Going and doing did not have to involve physical activity, but required 4 components: something worthwhile and desirable to do, balance between abilities and challenges, appropriate external resources, and personal attitudinal characteristics. Something worthwhile and desirable to do involved activities that were valued such as social activities, travel, reading, housework, fishing, swimming, and creative activities. The number of valued activities identified by an individual did not necessarily relate to a more positive assessment of health. Pain, disability, and depression affected individuals' abilities to identify or engage in meaningful activities. Balance between abilities and challenges affected how satisfactorily these older individuals could accomplish valued activities. They spoke of mobility, vision, and mental function as particularly important. Remaining independent emerged as an important contributor to better perceived health. Perspectives ranged from being resigned to limitations attributed to aging to a determination to continue to do as much as possible. Appropriate external resources were necessary to support going and doing. Almost all participants spoke of friends and family when asked about valued relationships. Having a spouse did not guarantee a positive perception of health, especially if the spouse had poor health and required caretaking. Cooperative marriages appeared to support positive perceptions. Social support was only part of what people needed. Participants also spoke of health care as a resource. Personal attitudinal characteristics emerged as the most important contributor to positive perceived health. Factors thought to contribute to a positive attitude included upbringing, religious faith, and control or willpower. Individuals who expressed positive attitudes, assertiveness, determination to continue to be active, and a desire to take charge perceived their health status more favourably than those who did not. Conclusion Older people perceived healthy aging in terms of going and doing something meaningful, which comprised 4 components.

REF ID: 5872

Level I: Systematic Reviews

Topic 2: Prevention

Netz, Y., Wu, M. J., Becker, B. J., & Tenenbaum, G. (2005). Physical activity and psychological well-being in advanced age: A meta-analysis of intervention studies. *Psychology & Aging*, 20(2), 272-284.

Journal Article. Meta-Analysis

A meta-analysis examined data from 36 studies linking physical activity to well-being in older adults without clinical disorders. The weighted mean-change effect size for treatment groups ($d(C) = 0.24$) was almost 3 times the mean for control groups ($d(C) = 0.09$). Aerobic training was most beneficial

(d(C). = 0.29), and moderate intensity activity was the most beneficial activity level (d(C). = 0.34). Longer exercise duration was less beneficial for several types of well-being, though findings are inconclusive. Physical activity had the strongest effects on self-efficacy (d(C).= 0.38), and improvements in cardiovascular status, strength, and functional capacity were linked to well-being improvement overall. Social-cognitive theory is used to explain the effect of physical activity on well-being. ((c) 2005 APA, all rights reserved).

REF ID: 5888

Level I: Systematic Reviews

Topic 4.6: Management-Other

O'Dell, K. K., & McGee, S. (2006). Acupuncture for urinary urgency in women over 50: What is the evidence? *Urologic Nursing, 26*(1), 23-30.

Journal Article, CEU, Exam Questions, Research, Systematic Review, Tables/Charts

Urinary urgency and related urge urinary incontinence are common women's health problems that increase with aging, as do physiologic changes, co-morbidities, and pharmacologic side effects that complicate treatment. The evidence base for acupuncture as therapy is reviewed and clinical and research opportunities are discussed.

REF ID: 5957

Level I:

Topic 1: Risks

Okun, M. A., & Schultz, A. (2003). Age and motives for volunteering: Testing hypotheses derived from socioemotional selectivity theory. *Psychology and Aging, 18*(2), 231-239.

Journal; Peer Reviewed Journal

Following a meta-analysis of the relations between age and volunteer motives (career, understanding, enhancement, protective, making friends, social, and values), the authors tested hypotheses derived from socioemotional selectivity theory regarding the effects of age on these volunteer motives. The Volunteer Functions Inventory was completed by 523 volunteers from 2 affiliates of the International Habitat for Humanity. Multiple regression analyses revealed, as predicted, that as age increases, career and understanding volunteer motivation decrease and social volunteer motivation increases. Contrary to expectations, age did not contribute to the prediction of enhancement, protective, and values volunteer motivations and the relation between age and making friends volunteer motivation was nonlinear. The results were discussed in the context of age-differential and age-similarity perspectives on volunteer motivation. (PsycINFO Database Record (c) 2006 APA, all rights reserved) (journal abstract)

REF ID: 5917

Level I:

Topic 1: Risks

Otte, C., Hart, S., Neylan, T. C., Marmar, C. R., Yaffe, K., & Mohr, D. C. (2005). A meta-analysis of cortisol response to challenge in human aging: Importance of gender.

***Psychoneuroendocrinology, 30*(1), 80-91.**

Journal; Peer Reviewed Journal

An increased cortisol response to challenge is associated with a variety of age-related disorders such as Alzheimer's disease, depression, diabetes, metabolic syndrome, and hypertension. Among the healthy elderly, an increased cortisol response to challenge may be a risk factor for developing these age-related disorders. We searched Pubmed, Embase, PsychInfo, Biosis, and Digital Dissertations (January 1966-June 2003) and included 45 parallel-group (young vs. old subjects) studies that used either a pharmacological or psychological challenge in healthy volunteers and measured cortisol response to challenge. We calculated effect sizes (Cohen's d) for the standardized mean differences between groups. Compared to younger controls (n=670, mean age 28 years +or- 5), older subjects (n=625, 69 +or- 6) showed a larger cortisol response to challenge defined as stronger response to stimulation or less inhibition after a suppression test (d=0.42, 95% confidence interval (CI), 0.26-0.57). The effect of age on cortisol release was significantly stronger in women (d=0.65, 95% CI 0.34-0.97) than men (d=0.24, 95% CI 0.02-0.47). Our results demonstrate that aging increases the cortisol response to challenge. This

effect of age on cortisol response is almost three-fold stronger in women than men. Prospective studies should explore whether the higher cortisol response in the elderly is a risk factor for developing neuropsychiatric and medical disorders. (PsycINFO Database Record (c) 2006 APA, all rights reserved) (journal abstract)

REF ID: 5878

Level I: Systematic Reviews

Topic 1: Risks

Owen, C. G., Whincup, P. H., Gilg, J. A., & Cook, D. G. (2003). Effect of breast feeding in infancy on blood pressure in later life: Systematic review and meta-analysis. *BMJ*, 327(7425), 1189-1195.

Journal Article. Meta-Analysis. Review

OBJECTIVE: To determine whether breast feeding in infancy compared with bottle feeding formula milk is associated with lower mean blood pressure at different ages. **DESIGN:** Systematic review. **DATA SOURCES:** Embase, Medline, and Web of Science databases. **STUDY SELECTION:** Studies showing the effects of feeding in infancy on blood pressure at different ages. **DATA EXTRACTION:** Pooled mean differences in blood pressure between breast fed infants and those bottle fed formula milk, based on random effects models. **DATA SYNTHESIS:** The pooled mean difference in systolic blood pressure was -1.10 mm Hg (95% confidence interval -1.79 to -0.42 mm Hg) but with significant heterogeneity between estimates (P 1000 participants (-0.16 mm Hg, -0.60 to 0.28 mm Hg). An Egger test but not Begg test was statistically significant for publication bias. The difference was unaltered by adjustment for current size and was independent of age at measurement of blood pressure and year of birth. Diastolic blood pressure was not significantly related to type of feeding in infancy. **CONCLUSIONS:** Selective publication of small studies with positive findings may have exaggerated claims that breast feeding in infancy reduces systolic blood pressure in later life. The results of larger studies suggest that feeding in infancy has at most a modest effect on blood pressure, which is of limited clinical or public health importance. [References: 26]

REF ID: 5476

Level I: Systematic Reviews

Topic 3: Assessment

Park, H. L., O'Connell, J. E., & Thomson, R. G. (2003). A systematic review of cognitive decline in the general elderly population.[see comment]. *International Journal of Geriatric Psychiatry*, 18(12), 1121-1134.

Journal Article. Meta-Analysis. Review

critiqued in ref ID: 5438

BACKGROUND: The public health impact of cognitive decline and dementia is increasing as the population ages. Studies exploring therapies or risk factors for cognitive impairment require understanding of expected age-related decline. **OBJECTIVE:** To establish the rate of age-related cognitive decline in the general elderly population. **DESIGN:** Systematic review of studies of cognitive decline in the general elderly population. Medline, Embase and PsycINFO databases were searched using an adapted version of McMaster's aetiology, causation and harm strategies and the Cochrane Dementia and Cognitive Impairment Group strategy. Grey literature was explored and experts contacted. A second observer was involved at all stages and quality appraisal of included studies was performed. Included studies were representative, community-based, cohort studies of people aged over 60, incorporating individuals with dementia. **RESULTS:** Identification of 5990 abstracts and retrieval of 163 full texts led to inclusion of 19 papers. Heterogeneity made narrative review the appropriate method of data synthesis. Some degree of cognitive impairment with increasing age was found in all studies, although the extent varied. The prevalence of cognitive impairment and the rate of decline increased with age. Studies were of variable quality. **CONCLUSIONS:** Cognitive decline is almost universal in the general elderly population and increases with age. Improved communication between researchers and between clinicians to identify a core minimum data set of neuropsychological tests that could be used in different populations would support consistent study design and meta-analysis, helping to

quantify the true rate of cognitive decline in the elderly and assisting diagnosis in clinical practice.
Copyright 2003 John Wiley & Sons, Ltd. [References: 63]

REF ID: 5908

QM: Quality Measures

Topic 5: Evaluation/Follow-up

Patla, A. E., Frank, J. S., & Winter, D. A. (1992). Balance control in the elderly: Implications for clinical assessment and rehabilitation. *Canadian Journal of Public Health*, 83(suppl 2), S29-33.
Journal Article, Proceedings, Research, Tables/Charts

Deterioration of balance control system with age results in a higher incidence of falls. To assess the performance of the balance control system we need to select appropriate body posture and/or motion, decide on the type and level of perturbation and study the response using selected measures. The guidelines we should use to determine the task, perturbation and measures is the focus of this article. Our work on the elderly is used to provide support for the various criteria put forward. The tasks evaluated for stability should include specific postures and movements which are part of the normal repertoire and challenge the balance control system. Variety of perturbations are necessary to get insights into the working of the system. The level of perturbation that can be handled should be specified. The response measures should be able to identify deterioration in the system performance, provide diagnostic information and insights into how the system has adapted to the age-related changes. These guidelines are critical if balance tests are to be used for clinical assessment and rehabilitation.

REF ID: 1997

Level V: Case report

Topic 3: Assessment; Topic 1: Risks

Pavlou, M. P., & Lachs, M. S. (2006 May). Could self-neglect in older adults be a geriatric syndrome? *Journal of the American Geriatrics Society*, 54(5), 831-842.

Journal Article. Review

Self-neglect in older adults is a complex phenomenon characterized by inattention to health and hygiene, typically stemming from an inability or unwillingness to access potentially remediating services. Some aspects of self-neglect clinically resemble geriatric syndromes (e.g., falling, incontinence). The literature on self-neglect was comprehensively reviewed and its quality evaluated in the context of considering its candidacy for a geriatric syndrome. MEDLINE (1966-2004) was searched using self-neglect as a keyword. Using a "snowball" sampling strategy, associated terms (e.g., Diogenes' syndrome) were combined, selecting relevant papers and frequently cited references, assessing each one using specific criteria. Its candidacy for consideration for a geriatric syndrome was assessed based on the quality of data in four domains: multifactorial etiology, shared risk factors with other geriatric syndromes, association with functional decline, and association with increased mortality. The 54 articles reviewed included 24 case series, 13 theoretical articles, 11 observational studies, and six reviews; these were of highly variable methodological quality. The strongest evidence that self-neglect may be a geriatric syndrome includes its often multifactorial etiology, its clear independent association with increased mortality, and the fact that two other geriatric syndromes (cognitive impairment and depression) are risk factors for self-neglect. Self-neglect in older adults is a prevalent problem that appears to have at least some features of a geriatric syndrome. Insofar as the concept of geriatric syndrome has been a useful clinical and research paradigm to create interventions for vulnerable older adults, and no such strategies are available for this vexing and understudied clinical problem, future research is warranted in this area. [References: 57]

REF ID: 5884

Level I: Systematic Reviews

Topic 3: Assessment

Petrie, M. C., Berry, C., Stewart, S., & McMurray, J. J. (2001). Failing ageing hearts. *European Heart Journal*, 22(21), 1978-1990.

Journal Article. Meta-Analysis

No abstract available.

REF ID: 5496

Level I: Systematic Reviews

Topic 1: Risks ;Topic 3: Assessment

Pinquart, M. (2001). Correlates of subjective health in older adults: A meta-analysis. *Psychology & Aging, 16*(3), 414-426.

Journal Article. Meta-Analysis

Age-associated changes of subjective health and associations of subjective health with physical health, functional health, and mental health were meta-analyzed in older adults (M age > 60 years). An age-associated decline of subjective health, which was stronger in old-old samples than in young-old samples, was found. Subjective health was correlated with the indicators of objective health, but the association with physical health was stronger than with functional health. Correlations of subjective health with physical health and functional health were lower in the old-old than in the young-old samples, whereas associations of subjective health with mental health were stronger in older samples. Furthermore, the size of the association between subjective and objective health varied by the method of assessment of objective health, showing highest associations with symptom checklists and results of medical examinations due to strict protocols.

REF ID: 5927

Level I:

Topic 1: Risks

Pinquart, M., & Sorensen, S. (2003). Risk factors for loneliness in adulthood and old age--a meta-analysis. [references].

Book; Edited Book

(from the chapter) Age-associated social losses increase the risk for loneliness in old age. However, only about 10% percent of older adults report frequent loneliness. In the present meta-analysis, we investigate risk factors for loneliness in later life. Loneliness is weakly correlated with age, but the correlation is greater for the oldest old. Social contact is negatively associated with loneliness, and the effect of the quality of social contacts is larger than the effect of the quantity of contacts. Contacts with friends protect more from loneliness than contacts with adult children and other relatives but this pattern was weaker in older samples. Being unmarried, having low levels of physical health, low everyday competence, low socioeconomic status, being female, and living in a nursing home were also associated with higher loneliness. In addition, associations of marital status, contact deficits, health problems, and female gender with loneliness were stronger in older samples, whereas institutionalization became less important in predicting loneliness in older samples. (PsycINFO Database Record (c) 2006 APA, all rights reserved)

REF ID: 5932

Level I:

Topic 1: Risks

Pinquart, M., & Sorensen, S. (2001). Gender differences in self-concept and psychological well-being in old age: A meta-analysis. *Journals of Gerontology: Series B: Psychological Sciences and Social Sciences, 56B*(4), P195-P213.

Journal; Peer Reviewed Journal

Because of women's higher risk of being widowed, having health problems, and needing care, one might expect them to have a more negative self-concept and lower subjective well-being (SWB). However, women may also have greater access to sources of SWB (e.g., relations to adult children) and may engage in processes to protect the self (e.g., lowered aspirations). Meta-analysis was used to synthesize findings from 300 empirical studies on gender differences in life satisfaction, happiness, self-esteem, loneliness, subjective health, and subjective age in late adulthood. Older women reported significantly lower SWB and less positive self-concept than men on all measures, except subjective age, although gender accounted for less than 1% of the variance in well-being and self-concept. Smaller gender differences in SWB were found in younger than in older groups. Statistically controlling for gender differences in widowhood, health, and socioeconomic status decreased gender differences in SWB.

Cohort differences in SWB are reported as well. (PsycINFO Database Record (c) 2006 APA, all rights reserved) (journal abstract)

REF ID: 5901

Level III: Quasi-experimental study

Topic 1: Risks

Rakitin, B. C., Stern, Y., & Malapani, C. (2005). The effects of aging on time reproduction in delayed free-recall. *Brain and Cognition*, 58(1), 17-34.

Journal Article, Clinical Trial, Research, Tables/Charts

The experiments presented here demonstrate that normal aging amplifies differences in time production occurring in delayed free-recall testing. Experiment 1 compared the time production ability of two healthy aged groups as well as college-aged participants. During the test session, which followed a 24-h delay and omitted all feedback and examples of the two target intervals, the two groups of aged participants' over-produced a 6s interval. This effect is similar in form to errors shown by young participants, but twice the magnitude. Productions of a 17 s interval were generally accurate overall. However, further analysis indicated that the majority of aged participants over-produced the 17 s interval while a minority greatly under-produced the 17 s interval. Furthermore, aged participants showed violations of the scalar property of timing variability in the training session, while in the test session, only those who under-produced the 17 s interval showed this tendency. In contrast, training session performance was good for all participants. Experiments 2 and 3 investigated the ability of the participants in Experiment 1 to reproduce the length of a line from memory, under conditions analogous to those of the time production experiments. These experiments provided tests of the specificity of the errors observed in Experiment 1. Performance in the older participants was accurate, if more variable, compared to the young participants, in contrast to the time production results, indicating that production inaccuracy in free-recall is specific to interval timing in the current context.

REF ID: 5876

Level I: Systematic Reviews

Topic 1: Risks

Rhodes, M. G. (2004). Age-related differences in performance on the wisconsin card sorting test: A meta-analytic review. *Psychology & Aging*, 19(3), 482-494.

Journal Article. Meta-Analysis

Two meta-analyses investigating age-related differences in performance on a popular measure of executive function, the Wisconsin Card Sorting Test (WCST), are reported. The 1st meta-analysis examined age-related changes in performance for the number of categories achieved, and the 2nd meta-analysis examined performance for the number of perseverative errors committed. Results indicated that robust age differences were present on both measures. Further analysis of moderator variables revealed reliable effects of education and test version on both measures, whereas test modality led to marginally significant differences in effect sizes obtained only for the number of categories achieved. Findings are discussed along with current accounts of age differences in performance of the WCST. Copyright 2004 American Psychological Association

REF ID: 5904

Level II: Individual experimental study

Topic 1: Risks

Robbins, S., Waked, E., & Krouglicof, N. (1998). Improving balance. *Journal of the American Geriatrics Society*, 46(11), 1363-1370.

Journal Article, Clinical Trial, Pictorial, Research, Tables/Charts

OBJECTIVE: To test the hypothesis that shoes made with a sole material that retains compressed thickness between steps (low resiliency) provide balance better than and comfort equal to shoes composed of high resiliency sole material. **SETTING:** Older subjects were recruited from a medical clinic population, and younger subjects came from a recreational sports population. **DESIGN:** A randomized-order, cross-over, controlled comparison design. **PARTICIPANTS:** Groups comprised random samples of 30 older (mean age 66 years, SD+/-3.0), and 30 younger (mean age 34 years, SD+/-

6.0) healthy men who met age selection criteria. MEASUREMENTS: Stability was inferred by sway measures: sway velocity (cm x s(-1)), X-Y area (cm²), and radial area (cm²). Comfort was measured by direct scaling and magnitude estimation using an 11-point ratio scale. RESULTS: Stability inferred by sway velocity was 311% (P < .001) and 31% (P < .001) poorer for younger and older groups, respectively, for high and low resiliency interfaces. Sway velocity with low resiliency interface was lower than bare platform, the lowest ever recorded under equivalent conditions (P < .001). All interfaces were equally comfortable. CONCLUSIONS: Stability rises with low resiliency interfaces and declines with high resiliency interfaces: sway velocity in older people wearing hard-soled footwear incorporating low resiliency technology would be 20% lower than in younger people wearing most current athletic and walking shoes. Inasmuch as existing theory can not account for improved balance with interfaces, we propose that when humans are supported by rigid support surfaces, elastic biologic tissues store energy from postural adjustments and locomotion, which is returned as a reaction force causing overshoot. This amplifies frontal plane foot movement and attenuates foot position awareness, causing less precise postural adjustments and instability. Low resiliency interfaces dissipate energy and thereby moderate overshoot. Low resiliency interface technology is capable of improving stability, which portends improved health for unstable older people in particular.

REF ID: 5866

Level I: Systematic Reviews

Topic 1: Risks ;Topic 3: Assessment

Roberts, S. B., & Dallal, G. E. (2005). Energy requirements and aging. *Public Health Nutrition*, 8(7A), 1028-1036.

Journal Article. Meta-Analysis. Review

OBJECTIVE: To summarise the literature on energy requirements and aging. DESIGN: An analysis and review of published data on components of energy expenditure and total energy expenditure (TEE). SETTING: Data on basal metabolic rate (BMR) and TEE were obtained from the US Institute of Medicine of the National Academies database (all available data from studies published before 2001, collected from 20 researchers willing to provide individual subject results). SUBJECTS: Those individuals from the database who were 20-100 years of age. RESULTS: TEE and physical activity level (PAL, defined as the ratio of total to resting energy expenditure) declined progressively throughout adult life in both normal weight and overweight men and women. In normal weight individuals (defined as body mass index (BMI) 18.5-25.0 kg m(-2)) TEE fell by approximately 150 kcal per decade, and PAL fell from an average of 1.75 in the second decade of life to 1.28 in the ninth decade. Thermic effect of feeding data from other published studies indicated no consistent change associated with aging. CONCLUSIONS: Aging is associated with progressive declines in resting and TEE, which have implications for defining dietary energy requirements at different stages of adult life. [References: 61]

REF ID: 5881

Level I: Systematic Reviews

Topic 1: Risks ;Topic 2: Prevention

Rochtchina, E., Mukesh, B. N., Wang, J. J., McCarty, C. A., Taylor, H. R., & Mitchell, P. (2003). Projected prevalence of age-related cataract and cataract surgery in australia for the years 2001 and 2021: Pooled data from two population-based surveys. *Clinical & Experimental Ophthalmology*, 31(3), 233-236.

Journal Article. Meta-Analysis

This study aimed to estimate the number of Australians over 50 with cataract in the years 2001 and 2021. Data from two population-based studies were pooled: the Blue Mountains Eye Study and Melbourne Visual Impairment Project and Australian Bureau of Statistics population projections were used. Similar definitions for the three cataract types were used in the two studies (nuclear \geq grade 4, posterior sub-capsular \geq 1 mm, cortical \geq 10% lens area or \geq 25% circumference). Combining the three types and prior surgery, it was estimated that in 2001, 1.7 million Australians had clinically significant cataract in either eye and 320,000 had previously undergone cataract surgery. It was estimated that the number of persons with cataract will rise to 2.7 million by 2021 (over 500,000 will

have had cataract surgery). The number of Australians with cataract will grow by two-thirds during the next 20 years, reflecting continued population ageing. Health care delivery systems will need to develop methods to handle this increased workload.

REF ID: 5958

Level I: Systematic Reviews

Topic 4.1: Management-General

Samuel, M., Brooke, R. C. C., Hollis, S., & Griffiths, C. E. M. (2006). Interventions for photodamaged skin. *Cochrane Database of Systematic Reviews*, 3

Background Photodamage describes skin changes such as fine and coarse wrinkles, roughness, freckles and pigmentation changes that occur as a result of prolonged exposure to the sun. Many treatments are available to reverse the damage, but it is unclear which work and at what cost in terms of unwanted side effects. Objectives To assess the effects of topically applied treatments, tablet treatments, laser and surgical procedures for photodamaged skin. Search strategy We searched the Cochrane Central Register of Controlled Trials (CENTRAL) in The Cochrane Library, Issue 1 2002, MEDLINE (1966-June 2002), EMBASE (1974-June 2002), Health Periodicals (1976-June 2002). We checked references of articles and communicated with authors and the pharmaceutical industry. Selection criteria Randomised controlled trials which compared drug or surgical interventions with no treatment, placebo or another drug, in adults with mild, moderate or severe photodamage of the face or forearms. Data collection and analysis Two reviewers independently extracted data and assessed trial quality. Main results Thirty studies of variable quality were included. Eight trials showed that topical tretinoin cream, in concentrations of 0.02% or higher, was superior to placebo for participants with mild to severe photodamage on the face and forearms (although losses to follow-up were relatively high in most studies). For example, the relative risk of improvement for 0.05% tretinoin cream, compared to placebo (three studies), at 24 weeks, was 1.73 (95% confidence interval 1.39 to 2.14). This effect was not seen for 0.001% topical tretinoin (one study) or 0.01% (three studies). A dose-response relationship was evident for both effectiveness and skin irritation. One small within-patient study showed benefit from topical ascorbic acid compared with placebo. Tazarotene (0.01% to 0.1%) and isotretinoin (0.1%) both showed significant improvement over placebo for moderate photodamage (one study each). There is limited evidence (one trial), to show that the effectiveness of 0.05% tretinoin, is equivalent to the effects of 0.05% and 0.1% tazarotene. One small study showed greater improvement in upper lip wrinkles with CO2 laser technique compared to Baker's phenol chemical peel, at 6 months. Three small RCTs comparing CO2 laser with dermabrasion found no difference in wrinkle score at 4 to 6 months, suggesting that both methods are equally efficacious, but more erythema was reported with the laser. The effectiveness of other interventions such as hydroxy acids and natural polysaccharides was not clear. Authors' conclusions There is conclusive evidence that topical tretinoin improves the appearance of mild to moderate photodamage on the face and forearms, in the short term. However erythema, scaling/dryness, burning/stinging and irritation may be experienced initially. There is limited evidence that tazarotene and isotretinoin benefit patients with moderate photodamage on the face: both are associated with skin irritation and erythema. The effectiveness of other interventions remains uncertain.

REF ID: 5919

Level I:

Topic 1: Risks

Small, B. J., Rosnick, C. B., Fratiglioni, L., & Backman, L. (2004). Apolipoprotein E and cognitive performance: A meta-analysis. *Psychology and Aging*, 19(4), 592-600.

Journal; Peer Reviewed Journal

The epsilon 4 allele of the apolipoprotein E (APOE) gene is a known risk factor for Alzheimer's disease and may also affect cognitive performance in normal aging. Evidence of the presence and magnitude of epsilon 4-related cognitive deficits was examined with a meta-analysis of the available literature. Thirty-eight studies were included, and cognitive performance was collapsed into 8 domains. Results indicated significant APOE-epsilon 4 group differences for global cognitive functioning, episodic memory, and executive functioning, in favor of non-epsilon 4 carriers. In addition, older age and APOE-epsilon 4

heterozygosity was associated with smaller epsilon 4-related impairments. The meta-analysis results suggest that APOE-epsilon 4 genotype does affect cognitive performance in healthy aging, although the influence is relatively small and specific to certain domains of cognitive performance. (PsycINFO Database Record (c) 2006 APA, all rights reserved) (journal abstract)

REF ID: 5906

QM: Quality Measures

Topic 5: Evaluation/Follow-up

Spencer, J. (2002). Social activity: A key indicator of well being. *Nursingmatters*, 13(8), 1, 12.

Journal Article

REF ID: 5438

Level VI: Opinion

Topic 1: Risk

Stewart, R. (2004). Review: In older people, decline of cognitive function is more likely than improvement, but rate of change is very variable. *Evidence-Based Mental Health*, 7(3), 92.

Journal Article, Abstract, Commentary

critique of Park HL, O'Connell JE, Thomson RG. A systematic review of cognitive decline in the general elderly population. *INT J GERIATR PSYCHIATRY* 2003; 18: 1121-34;

What is the rate of age related cognitive decline in the elderly population? METHODS: Design: Systematic review with narrative synthesis. Data sources: MEDLINE (1966-2000), Embase (1990-2000), PsycINFO (1984-2000), selected web resources, National Research Register, plus contact with experts. Study selection and analysis: Eligible studies were community based prospective cohort studies, predominantly in people aged ≥ 60 years, with high rates of follow up. Studies in people with known dementia were analysed separately. Hospital based studies were excluded. Authors were contacted for additional information if required. Outcomes: Rate of cognitive decline. MAIN RESULTS: From 5990 possible abstracts, 19 papers met inclusion criteria. Meta-analysis was not possible due to heterogeneity of studies. It was not possible to determine the actual rate of age related cognitive decline in the general elderly population due to variations in testing, study design, and study reporting. The rates of cognitive decline varied among studies. In 12 studies, the annual decline in MMSE score ranged from 0.1-1.3 points. In three studies, the annual decline in the Cam-Cog ranged from 0.96-1.6 points. All studies reported a relation between increasing age and some degree of cognitive impairment. CONCLUSIONS: Cognitive decline is almost universal in the general elderly population and increases with age. The greatest declines are in the oldest subgroups. Good functioning at baseline is associated with smaller rates of decline. It was not possible to determine the actual rate of age related cognitive decline in the general elderly population due to variations in testing, study design, and study reporting. An international gold standard neuropsychological test battery is required to remedy this. NOTES: Studies were of variable quality and used different types of assessments and outcomes. Quality was particularly poor for power calculations and reporting of the types of professionals carrying out neuropsychological testing. Loss to follow up in studies was high, ranging from 16.9% to 93.3%.

REF ID: 5886

Level I: Systematic Reviews

Topic 3: Assessment

Tanaka, H., Monahan, K. D., & Seals, D. R. (2001). Age-predicted maximal heart rate revisited. *Journal of the American College of Cardiology*, 37(1), 153-156.

Journal Article. Meta-Analysis

OBJECTIVES: We sought to determine a generalized equation for predicting maximal heart rate (HRmax) in healthy adults. BACKGROUND: The age-predicted HRmax equation (i.e., $220 - \text{age}$) is commonly used as a basis for prescribing exercise programs, as a criterion for achieving maximal exertion and as a clinical guide during diagnostic exercise testing. Despite its importance and widespread use, the validity of the HRmax equation has never been established in a sample that included a sufficient number of older adults. METHODS: First, a meta-analytic approach was used to collect

group mean HRmax values from 351 studies involving 492 groups and 18,712 subjects. Subsequently, the new equation was cross-validated in a well-controlled, laboratory-based study in which HRmax was measured in 514 healthy subjects. RESULTS: In the meta-analysis, HRmax was strongly related to age ($r = -0.90$), using the equation of $208 - 0.7 \times \text{age}$. The regression equation obtained in the laboratory-based study ($209 - 0.7 \times \text{age}$) was virtually identical to that obtained from the meta-analysis. The regression line was not different between men and women, nor was it influenced by wide variations in habitual physical activity levels. CONCLUSIONS: 1) A regression equation to predict HRmax is $208 - 0.7 \times \text{age}$ in healthy adults. 2) HRmax is predicted, to a large extent, by age alone and is independent of gender and habitual physical activity status. Our findings suggest that the currently used equation underestimates HRmax in older adults. This would have the effect of underestimating the true level of physical stress imposed during exercise testing and the appropriate intensity of prescribed exercise programs.

REF ID: 5930

Level I:

Topic 1: Risks

Tarter, M. A. (2001). Frontal lobe/executive system (flex) functional decline associated with age: A meta-analysis of normative neuropsychological studies. *Dissertation Abstracts International: Section B: The Sciences and Engineering*, 61(11-B), 6151.

Dissertation Abstract

Using multiple and redundant electronic and manual search techniques, studies reporting normative data on frontal lobe/executive (FLEX) system functioning in older adults were collected for literature review, meta-analyses and synthesis. Study selection was made on the basis of multiple search techniques in order to gather as complete a collection of primary data as possible without regard to study quality or year of publication. Specific effort was made to locate older studies in order to enable evaluation of possible cohort effects on estimates of decline in FLEX system functioning. Eighty primary studies published from 1941-1998 reporting data on at least one FLEX measure in adults were selected and coded for meta-analyses. Demographic and health data on "normal" subjects was coded for each study. Health of subjects was rated on a 3-point scale based on the stated intent of investigators and descriptions of subjects provided within studies. Study quality was measured by coding whether investigators inquired into 16 areas of health functioning when assembling normal or control subjects. Information on selection strategies and methods was coded and collected. All coding was recorded and organized in a computerized database for meta-analyses. This dissertation has three primary objectives. First, to review and synthesize the literature regarding age related decline in FLEX system functioning in adults and normal elderly subjects. Second, to provide meta-analytic effect size estimates of five subject variables (age, education, gender, health status, and cohort) on performance of commonly used standardized tests sensitive to executive system dysfunction in normal older adults. Third, to provide meta-analytic effect size estimates of three potential sources of systematic, between-studies variance (sample size, sampling method, and sampling strategy) on effect size estimates of aging. (PsycINFO Database Record (c) 2006 APA, all rights reserved)

REF ID: 5916

Level I:

Topic 1: Risks

Thornton, W. J. L., & Dumke, H. A. (2005). Age differences in everyday problem-solving and decision-making effectiveness: A meta-analytic review. *Psychology and Aging*, 20(1), 85-99.

Journal; Peer Reviewed Journal

The authors report a meta-analysis of age differences in everyday problem-solving/decision-making effectiveness (EPSE). Effect sizes were calculated to reflect 3 age group comparisons: old versus young, young versus middle-aged, and middle-aged versus old. Findings from the meta-analysis of 28 separate studies with an aggregate of 4,482 participants do not support theories of preserved EPSE in late adulthood. Although significant age differences of moderate magnitude persisted across methodological and theoretical domains, rating criteria (experimenter vs. participant) emerged as a significant moderator

of the effect magnitude and direction. In addition, EPSE in older adults was bolstered when problem content was interpersonal and when samples were highly educated. Finally, the current results support the conceptual integration of findings from the everyday problem-solving and everyday decision-making literatures. (PsycINFO Database Record (c) 2006 APA, all rights reserved) (journal abstract)

REF ID: 5877

Level I: Systematic Reviews

Topic 1: Risks

Van Petten, C. (2004). Relationship between hippocampal volume and memory ability in healthy individuals across the lifespan: Review and meta-analysis. *Neuropsychologia*, 42(10), 1394-1413.

Journal Article. Meta-Analysis. Review

Poor memory ability and small hippocampal volume measurements in magnetic resonance images co-occur in neurological patients. Numerous studies have examined the relationship between memory performance and hippocampal volumes in participants without neurological or psychiatric disorders, with widely varying results. Three hypotheses about volume-memory relationships in the normal human brain are discussed: "bigger is always better", a neuropsychological view that volume decreases due to normal aging are accompanied by memory decline, and a developmental perspective that regressive events in development may result in negative correlations between hippocampal volume and memory ability. Meta-analysis of results from 33 studies led to little support for the bigger-is-better hypothesis. A negative relationship between hippocampal volume and memory (smaller is better) was significant for studies with children, adolescents, and young adults. For studies with older adults, the most striking observation was extreme variability: the evidence for a positive relationship between hippocampal size and episodic memory ability in older adults was surprisingly weak. Some of the variability in results from older adults was associated with statistical methods of normalizing for age and head size, which are discussed. [References: 151]

REF ID: 5889

Level I: Systematic Reviews

Topic 1: Risks Topic 2: Prevention

van Vliet, M. J., Schuurmans, M. J., Grypdonck, M. H. F., & Duijnste, M. S. H. (2006). Improper intake of medication by elders -- insights on contributing factors: A review of the literature. *Research and Theory for Nursing Practice*, 20(1), 79-93.

Journal Article, Research, Systematic Review, Tables/Charts

Elders represent 6.4% of the world's populations, and 60% of them take medication. In one of six hospital admissions of elders, failures in medication intake are involved. Most of these admissions (88%) could be prevented if elders at risk can be identified (Beijer & Blaey, 2002). This review was conducted to identify and gain insight into which factors influence medication intake in elders. The factors are grouped into six categories: physiological factors, cognitive factors, polypharmacy and medication frequency, patient consent to the treatment and motivation for taking the medication, demographic variables, and family caregivers and social support. In order to identify elders at risk in an early stage, it is recommended that a risk-assessment instrument be developed.

REF ID: 5880

Level I: Systematic Reviews

Topic 1: Risks ; Topic 3: Assessment

Verhaeghen, P. (2003). Aging and vocabulary scores: A meta-analysis. *Psychology & Aging*, 18(2), 332-339.

Journal Article. Meta-Analysis. Review

Vocabulary scores were examined in a total of 210 articles, containing 324 independent pairings of younger and older adults, from the 1986-2001 issues of *Psychology and Aging*. The average effect size, favoring the old, was 0.80 SD. Production tests yielded smaller effects (0.68 SD) than multiple-choice tests (0.93 SD). Both age and education were found to be partially independent determinants of performance in production tests; age effects disappeared in multiple-choice tests as soon as education was taken into account. In addition, the Wechsler Adult Intelligence Scale--Revised Vocabulary subtest

(D. Wechsler, 1981) was also found to be sensitive to the Flynn effect (J. R. Flynn, 1987; i.e., increasing test scores with advancing birth year). The results question the approach of using age-group equality in vocabulary scores as a check on sample equivalence. [References: 27]

REF ID: 5879

Level I: Systematic Reviews

Topic 1: Risk

Verhaeghen, P., Steitz, D. W., Sliwinski, M. J., & Cerella, J. (2003). Aging and dual-task performance: A meta-analysis. *Psychology & Aging, 18*(3), 443-460.

Journal Article. Meta-Analysis

The relations between dual-task effects and aging were examined through a meta-analysis of 33 studies (with 48 independent participant groups) using latency as the dependent measure and 30 studies (with 40 independent participant groups) focusing on accuracy. Brinley plots and state traces were derived, and a model to explicate different types of complexity (additive and multiplicative) was developed. The effects of dual-task processing on latency were additive, and this additive cost was larger in older adults than in younger adults and larger than predicted from general slowing. This cost was small and independent of task complexity. The effects of dual-task processing on logit-transformed accuracy were likewise additive, but no specific age deficit was associated with this dual-task cost.

REF ID: 5887

Level I: Systematic Reviews

Topic 4.1: Management-General

Vetter, N. J. (2005). Effects of an aging population on service use. *Reviews in Clinical Gerontology, 15*(1), 55-62.

Journal Article, Questions and Answers, Research, Systematic Review, Tables/Charts

abstract not available

REF ID: 5896

Level I: Systematic Reviews

Topic 3: Assessment

Wadensten, B., & Carlsson, M. (2003). Nursing theory views on how to support the process of ageing. *Journal of Advanced Nursing, 42*(2), 118-124.

Journal Article, Research, Systematic Review, Tables/Charts

Background. An important purpose of theories is to challenge practice, create new approaches to practice and remodel the structures of rules and principles. Therefore, it is of interest to study whether it is possible to make use of nursing theories in care of older people, when the aim is to support them in the process of ageing. Aim. To review 17 well-known nursing theories/models in order to delineate the views on ageing presented and discover whether there are descriptions of how nursing care of older people could be organized. Methods. Seventeen nursing theories/models originating over a 30-year period from the early 1960s to the early 1990s were chosen. A search of CINAHL was done and lists of reference from books were used to find original sources. For the review, a list of research questions were formulated and addressed to each theory. Results. Results showed that most nursing theorists see human ageing from a developmental perspective, but do not discuss what ageing implies. In only a few theories are some important aspects of nursing care of older people discussed, but no concrete instructions are given on how to apply these to nursing care. Conclusion. There is a need to develop a nursing care model that - more than other contemporary theories - takes into consideration human ageing.

REF ID: 5885

Level I: Systematic Reviews

Topic 4.3: Management-Medication

Wagner, G., Montorsi, F., Auerbach, S., & Collins, M. (2001). Sildenafil citrate (VIAGRA) improves erectile function in elderly patients with erectile dysfunction: A subgroup analysis. *Journals of Gerontology Series A-Biological Sciences & Medical Sciences, 56*(2), M113-9.

Journal Article. Meta-Analysis

BACKGROUND: The prevalence of erectile dysfunction (ED) increases with advancing age, with a particularly high prevalence of ED in elderly patients with diabetes. In the United States it is estimated that approximately 45% of men aged 65 to 69 years have moderate or complete ED. The efficacy and safety of oral sildenafil (VIAGRA) for treating ED in elderly men (aged > or = 65 years or older) were assessed. **METHODS:** We analyzed data obtained from five double-blind, placebo-controlled studies of the efficacy and tolerability of oral sildenafil taken as required (but not more than once daily) over a 12-week to 6-month period. Two subgroups were evaluated: (i) elderly patients with ED of broad-spectrum etiology (n = 411), and (ii) elderly patients with ED and diabetes (n = 71). Efficacy was assessed using a global efficacy question, questions 3 and 4 of the International Index of Erectile Function (IIEF), and the five sexual function domains of the IIEF. **RESULTS:** All efficacy assessments indicated that sildenafil significantly improved erectile function both in elderly patients with ED of broad-spectrum etiology and in elderly patients with ED and diabetes. The most common adverse events were mild-to-moderate headache, flushing, and dyspepsia. The rates of discontinuation due to adverse events were low and were comparable to the rates with placebo. **CONCLUSIONS:** Sildenafil is an efficacious and well-tolerated treatment for ED in elderly men.

REF ID: 5899

Level I: Systematic Reviews

Topic 2: Prevention

Wallhagen, M. I. (2002). Hearing impairment. *Annual Review of Nursing Research, 20*, 341-368.

Journal Article, Research, Systematic Review, Tables/Charts

abstract not available

REF ID: 5910

QM: Quality Measures

Topic 5: Evaluation/Follow-up

Westphal, J. R., Sakauye, K., Rush, J., & Kumar, S. (1999). The louisiana medicare electro-convulsive therapy quality improvement project. *Journal of the Louisiana State Medical Society, 151*(10), 511-517.

Journal Article

The first collaborative statewide psychiatric quality improvement project, initiated by Louisiana Health Care Review, Inc, focused on the practice of inpatient electro-convulsive therapy (ECT) among Medicare patients. Data from the project indicated that the majority of Medicare patients receiving ECT were white females living at home, in good physical health, in their seventies, and with a diagnosis of major depression or major depression with psychotic features. The quality indicators for the project included: (documentation of) monitoring of cognitive side effects, monitoring of depressive target symptoms, ECT appropriateness, electrode placement, anesthesia evaluation, and dental examination. An additional indicator (administration of possibly detrimental medication during ECT) was developed based on the recommendation by the study group. At project conclusion, significant improvement occurred in all project indicators. ECT as practiced in the participating hospitals was effective and appropriate. Appropriateness was determined as depression refractory to two medication trials or an emergency due to severe suicidal ideation or physical deterioration secondary to malnutrition. Transient hypertension (13%) and cardiac dysrhythmia (3.5%) which resolved in the recovery period were the most frequent complications.

REF ID: 5894

Level I: Systematic Reviews

Topic 3: Assessment; Topic 4.1: Management-General

Yueh, B., Shapiro, N., MacLean, C. H., & Shekelle, P. G. (2003). Scientific review and clinical applications. screening and management of adult hearing loss in primary care: Scientific review. *JAMA: Journal of the American Medical Association, 289*(15), 1976-1985.

Journal Article, Pictorial, Questionnaire/Scale, Research, Systematic Review, Tables/Charts